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COLLEGE OF GRADUATE STUDIES

## Cleveland State University



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## the college of graduate studies

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### The College of Graduate Studies

### HISTORY AND MISSION

Cleveland State University has been authorized by the Ohio Board of Regents to offer graduate programs since the fall of 1967. In October of 1968, the Cleveland State University Board of Trustees created the College of Graduate Studies to facilitate the operation of graduate degree programs and to assist in the development of new programs.

As an urban institution, Cleveland State University has special obligations and opportunities. First and foremost, however, Cleveland State is a university. Its basic mission - central to all universities - is to preserve existing knowledge, seek new knowledge, and profess both. This is accomplished through the triad of teaching, research, and service. The University's urban location imposes an obligation to reach out to all citizens in the community with the offer of educational opportunities and services.

Within this context, the mission of the College of Graduate Studies is to provide a comprehensive range of advanced study opportunities at the master's degree level, and a selected range of opportunities for doctoral education in areas that address particular economic and social needs in northeast Ohio.

The Dean of the College of Graduate Studies, in collaboration with the elected faculty members of the University Graduate Council, exercises review of all graduate programs, provides leadership in the development of new degree offerings, maintains a centralized graduate admissions system, and monitors standards for graduate student admission and graduation.

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### GRADUATE FACULTY

Most graduate courses are taught by faculty who are members of the University Graduate Faculty. These faculty hold the terminal degree in their fields (usually the doctoral degree) and meet the Graduate College's standards of sustained scholarship or creative activity or, alternatively, are recognized for their accomplishments as practitioners in their disciplines. An up-to-date roster of the University Graduate Faculty may be found at www.csuohio.edu/gradcollege/facadmin/gradfac/gradfac.htm.

Cleveland State University, Kent State University, the University of Akron, and Youngstown State University observe a reciprocal Graduate Faculty agreement whereby members of the Graduate Faculty at each of the other three institutions may, with appropriate approvals, teach graduate courses and serve on thesis and dissertation committees for Cleveland State University graduate students.

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### GRADUATE DEGREE PROGRAMS

The University offers doctoral degrees in biology, business administration, chemistry, engineering, urban education, and urban studies.

Master's degrees are offered in 38 academic areas, and provide a comprehensive representation of the arts, sciences, and professions. These are:

**Arts and Humanities:** Art History (as an M.A. specialization in History), English, History, Music, Philosophy, and Spanish.

**Business Administration:** Accountancy, Business Administration, Computer and Information Science, Health Care Administration (as an M.B. A. specialization), Labor Relations and Human Resources, and Public

Health (M.P.H.).

**Education:** Master of Education (M.Ed.) and two post-master's Educational Specialist (Ed.S.) programs in Educational Administration; Health and Physical Education, Sports Management and Exercise Science, and Community Health (as specializations in the M.Ed. program).

**Engineering:** Chemical Engineering, Civil Engineering, Electrical Engineering, Engineering Mechanics, Environmental Engineering, Industrial Engineering, and Mechanical Engineering.

**Health Professions:** Health Sciences, Nursing, Occupational Therapy, Physical Therapy, and Speech Pathology and Audiology.

**Mathematics and Natural Sciences:** Biology, Chemistry, Environmental Science, Mathematics (M.A. and M.S.), and Physics.

**Social and Behavioral Sciences:** Communication; Economics; Psychology, including a post-master's degree in School Psychology (Psy. S.); Social Work; and Sociology.

**Urban Affairs:** Environmental Studies; Public Administration; Urban Planning, Design, and Development; and Urban Studies.

The College of Graduate Studies also offers a joint J.D./M.B.A. program in conjunction with the College of Law and the College of Business Administration, and joint J.D./M.P.A., J.D./M.A.E.S., and J.D./M.U.P.D.D. programs in conjunction with the College of Law and the College of Urban Affairs for students interested in earning graduate degrees in business administration, public administration, or urban planning and design while concurrently earning a degree in law.

### **Graduate Certificate And Licensure Programs**

The University offers a variety of graduate certificate programs that range from nine to 18 credit hours. Students may either complete a graduate certificate program while working simultaneously on a graduate degree or pursue a certificate only.

In addition, the University offers a variety of programs to accommodate individuals who wish to pursue State of Ohio teaching licensure. Teacher licensure programs are available to graduate degree-seeking students and to those solely interested in qualifying for state licensure.

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#### ACADEMIC AND SCIENTIFIC INTEGRITY

The University, in its effort to preserve, advance, and disseminate knowledge, relies on the academic and scientific integrity of its faculty and students. Academic and scientific integrity foster credibility within the institution, the Greater Cleveland community, and higher education as a whole.

Cleveland State University is committed to maintaining academic and scientific integrity. As such, it is the duty and responsibility of both faculty and students to conduct themselves, their educational pursuits, and their research in a manner conducive to such an environment. This commitment includes honesty in such tasks as taking examinations, writing papers, theses, and dissertations; recording research data; submitting proposals for external funding; and publishing the results of all research. The ethical conduct of all members of the Cleveland State University community ensures the honor of the University and the trust of those within this academic community. The Dean of Graduate Studies and Research is responsible for administering the University's Policy for Responding to Allegations of Academic Research Misconduct as well as the University's Policy for Managing Conflicts of Interest, both of which were approved by the Cleveland State University Board of Trustees on February 12, 1997.

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### RESEARCH INVOLVING HUMAN SUBJECTS

Students planning to conduct research involving human subjects must submit a proposal to the Institutional Review Board (IRB) prior to project commencement through the IRB Coordinator at the Office of Sponsored Programs and Research (OSPR). The proposal must include, at a minimum, an application for project approval, a project description, and an informed consent statement. Proposal submission instructions, a proposal requirement checklist, and an application for project approval can be obtained from the OSPR at 1983 East 24th Street, Fenn Tower 1010, or via the Internet at www.csuohio.edu/uored/forms. Proposals should be submitted as early as possible in order to allow sufficient time for review and to avoid a schedule delay, should revisions be requested by the IRB. Cleveland State University will not accept any research projects that have failed to receive approval from the IRB in fulfillment of degree requirements.

Cleveland State University human subjects policy requires that all research involving human subjects be submitted in proposal format to the IRB for review in accordance with federal regulations (45 CFR 46.101(c)(d)),

which authorize the IRB to exercise jurisdiction over all human subjects research. The IRB will determine whether proposed research is exempt from further review, requires full Board review, or is appropriate for expedited review under the applicable regulations and institutional policies. Research investigators are not authorized, at any time, to independently determine that proposed research is exempt from IRB consideration and oversight. The IRB reserves the right to render a final determination, and research investigators are responsible for complying with all IRB decisions, conditions, and requirements.

Applicable federal regulations governing the IRB review and approval process are available for consideration via the Internet, including:

- Title 45, Code of Federal Regulations, Part 46
- www.nih.gov/grants/oprr/humansubjects/45cfr46.htm
- The Belmont Report, Ethical Principles and Guidelines for the Protection of Human Subjects of Research
- www.nih.gov/grants/oprr/humansubjects/guidance/belmont.htm

Questions concerning the IRB review and approval process should be directed to the OSPR/IRB staff at (216) 687-3630.

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### **GRADUATE COLLEGE OFFICE**

The Graduate College Office is located on the 11th floor of Fenn Tower, which is on the corner of East 24th Street and Euclid Avenue; telephone: (216) 687-9370. At this location graduate students can obtain assistance with petitions, graduate assistantship contracts, transfer credit requests, transient applications, and thesis/dissertation instructions and approvals.

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### OFFICE OF GRADUATE ADMISSIONS

The Office of Graduate Admissions is located in Rhodes Tower West, Room 204; telephone (216) 687-5599; fax (216) 687-5400; email graduate. admissions@csuohio.edu. At this location, graduate students may obtain

the Graduate College Catalog, information about admission examinations, and assistance with admissions.

The Office of Graduate Admissions maintains a central admissions file system for all graduate degree, certificate, and licensure applicants. As admission materials are received by the office, photocopies of the documents (application form, transcripts, letters of recommendation, tests scores, etc.) are forwarded to the appropriate Graduate Program Director, who forms a departmental file for the applicant. Once the department file is decision-ready, the Program Director submits an admission recommendation to the Office of Graduate Admissions. The Graduate Admissions Director transmits the admission action and supporting materials to the applicant. Applicants are encouraged to contact the Office of Graduate Admissions and their Graduate Program Director regarding the status of their application for graduate admission.

International admissions: Any individual who is on a non-immigrant visa, or who will be applying for a non-immigrant visa (student visa), and is interested in enrolling in a graduate degree, certificate, or licensure program must apply for admission through the Center for International Services and Programs (CISP). CISP is located in Room 302 of University Center; telephone (216) 687-3910; fax (216) 687-3965; email cispcsu@csuohio.

edu. CISP also provides visa application information. Students who are permanent residents must apply through the Office of Graduate Admissions.

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### **COURSE NUMBERS AND CODES**

The courses offered in the various graduate programs are listed in this Catalog. Graduate courses are numbered 500-899, and are coded as follows:

- 1. Course number
- 2. Course title
- 3. Parenthesized numerals indicate respectively the classroom hours, the laboratory hours, and the number of credits assigned to the course, e.g., (4-0-4) would indicate four classroom hours per week, no laboratory, and four credit hours.

Courses numbered 500-599 are master's-level courses, but are open to selected Cleveland State University graduating seniors. See the "Undergraduate Students Taking Graduate Courses" section in this Catalog. Courses 600-699 are master's-level courses and are not open to undergraduate students. Courses numbered 700-899 are doctoral-level courses. Graduate certificate, licensure, or master's-level students may not

register for 800-level courses.
register for 600-level courses.
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### admissions

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### **DEGREE ADMISSION**

Individuals with a baccalaureate degree from a college or university with full academic accreditation and who present satisfactory evidence of the ability to pursue graduate study can be considered for admission. These applicants are expected to possess sound qualifications and relevant training for their major field of study. A minimum 2.75 cumulative gradepoint average (A = 4.00) with a higher average in the major field, or a score at the 50th percentile or above on a standardized admission examination, is required for Regular graduate status. A student who has an undergraduate grade-point average of less than 2.75, but has completed 12 or more graduate credit hours with a 3.00 or better grade-point average as a Non-Degree graduate student at Cleveland State University, may be exempted by the Graduate College from taking a graduate admission examination. Such exemptions require the endorsement of the graduate degree program that the student wishes to enter.

The institution from which the student received the bachelor's degree determines a student's undergraduate grade-point average. For those with post-baccalaureate studies, both undergraduate and graduate grade-point averages are considered to determine eligibility for degree admission.

Acceptance of an applicant for admission is finalized by the Office of Graduate Admissions after the recommendation for admission by the appropriate departmental or college graduate committee.

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### **ADMISSION EXAMINATIONS**

The Graduate Record Examination (GRE), the Graduate Management Admissions Test (GMAT), and the Miller Analogies Test (MAT) are required in certain circumstances by the Graduate College and/or by graduate programs. Since not all applicants are required to submit the results of an admissions examination, prospective students should read the following section to determine when examination results must be submitted.

College of Arts and Sciences Applicants: Admission examination requirements vary considerably for different graduate programs in the Arts and Sciences College. Applicants should consult individual program descriptions in this Catalog for admission examination requirements.

**College of Business Administration Applicants:** All applicants to graduate programs in the College of Business Administration must submit appropriate examination results:

- Doctor of Business Administration: GMAT
- Master of Accountancy: GMAT
- Master of Business Administration: GMAT
- Master of Computer and Information Science: either the GMAT or the GRE
- Master of Labor Relations and Human Resources: either the GMAT or the GRE
- Master of Public Health: GRE

College of Education Applicants: The GRE (General section only) is required of all applicants to the Ph.D. in Urban Education program. The GRE or the Miller Analogies Test is required of all applicants to the M. Ed.-Counseling program regardless of GPA or year of prior degree completion. In addition, all other applicants to the Master of Education program whose undergraduate cumulative grade-point average is below 2.75, or whose baccalaureate graduation date precedes application to the Graduate College by more than six years, must submit the results of one of the following:

- The Miller Analogies Test;
- The GRE (both General and Subject sections)

Note: If the student has completed 12 or more graduate credit hours as a Non-Degree graduate student at Cleveland State University (EDB 601 Educational Research and at least two other courses from the area of specialization) and received grades of "B" or better, or if the baccalaureate graduation date is six years beyond the time of application

and the applicant's undergraduate grade-point average is 3.00 or above, he or she may be exempted by the College of Education from taking a graduate admission examination. This applies to all programs except Counseling.

**Fenn College of Engineering Applicants:** Applicants should consult individual program descriptions in this Catalog for admission examination requirements.

**All Other Applicants:** The GRE, General and Subject sections, are required of other applicants in the following cases:

- If the graduate program requires the GRE as part of the admission criteria. (Consult individual program descriptions for this information.)
- The student's undergraduate cumulative grade-point average is below 2.75.
- The undergraduate degree was conferred by a non-accredited institution.
- The year of the baccalaureate graduation precedes the date of application to the Graduate College by more than six years; however, in this case, the examination requirement may be waived, with program approval, if the applicant's grade-point average is 3.00 or above.

Some graduate programs require the GRE or an alternative admission examination if the student's undergraduate degree was awarded by a college or university outside of the United States. See the section below on International Students.

Only examination results received directly from the appropriate testing service, which are not more than six years old at the point of application, are considered official and valid. If the program requires examination results, scores must be at the 50th percentile or above to qualify for possible admission under Regular graduate status.

Examination information is available from the Office of Graduate Admissions, Rhodes Tower West, Room 204, and the University Testing Center, University Center, Room 253B.

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### ADMISSION PROCEDURES FOR GRADUATE APPLICANTS

ADMISSION PROCEDURES FOR GRADUATE DEGREE

### **APPLICANTS:**

To complete admission procedures, graduate degree applicants must submit the following:

- 1. **Application:** A completed application (paper or on-line application form, official transcripts, test scores, letters of recommendation, etc.) not less than six weeks prior to the term of desired entrance must be submitted. An application form is enclosed in the back of this Catalog. For a listing of programs with earlier application deadlines, consult the Graduate Admissions Application Instructions section in this Catalog.
- 2. **Official Transcripts:** Request that every college or university previously attended send one official transcript to the Office of Graduate Admissions. Transcripts must be received in the Graduate Admissions Office directly from the originating institutions.
- 3. **Letters of Recommendation:** Provide recommendation forms (download from www.csuohio.edu/gradcollege; forms also enclosed in the back of this Catalog) to individuals who are recommending the student. Normally, at least one of the recommendations should be from a college professor familiar with the applicant's academic work.

Applicants to the Doctor of Business Administration (D.B.A.) program and the Master of Social Work (M.S.W.) program must submit three letters of recommendation. Most other programs require two letters of recommendation. The following master's degree programs do not require letters of recommendation:

- 1. Accountancy (M.Acc.)
- 2. Business Administration (M.B.A.)
- 3. Computer and Information Science (M.C.I.S.)
- 4. Education (M.Ed.) (Most programs < check individual program requirements)
- 5. Labor Relations and Human Resources (M.L.R.H.R.)
- 6. Mathematics (M.A. and M.S.)
- 7. Mechanical Engineering (M.S.)
- 4. **Official Test Scores:** Submit results of the appropriate admission examination as required by the Graduate College and/or the graduate degree program. Only official test scores received directly from the testing service are considered official and valid.
- 5. **Application Fee:** Submit payment for the required \$30 Graduate Application Fee. Admission decisions will not be rendered until

the fee is paid. No application fee is required of applicants who have paid the fee earlier for graduate degree, certificate, or licensure admission to Cleveland State University.

### **Submission of Materials**

Graduate degree-seeking applicants (U.S. citizens and permanent residents) should send all application materials, and a check or money order drawn on a U.S. bank for the graduate application fee, directly to:

Office of Graduate Admissions Rhodes Tower West, Room 204 Campus Box G Cleveland State University 2121 Euclid Avenue RTW 204 Cleveland, Ohio 44115-2214

Telephone: (216) 687-5599

Toll Free: 1-888-CSU-OHIO (ask for the Graduate

Admissions Office) Fax: (216) 687-5400

The Graduate Admissions Office maintains a central admissions file for all graduate degree applicants. As admission materials are received in the Graduate Admissions Office, copies of the documents (application form, official transcripts, letters of recommendation, official score reports, etc.) are forwarded to the appropriate graduate program director, who forms a departmental file for the applicant. Once the departmental file is decision-ready, the graduate program director submits an admission recommendation to the Graduate Admissions Office. The Director of Graduate Admissions transmits the admission action and supporting materials to the applicant.

Applicants are encouraged to call the Graduate Admissions Office to check on the status of their applications.

## GRADUATE CERTIFICATE AND GRADUATE LICENSURE ADMISSION:

- 1. Individuals with a baccalaureate degree from a college or university with full academic accreditation can be considered for graduate certificate or licensure admission. Official transcripts from all colleges and universities previously attended must be submitted by the originating institutions to the Cleveland State Office of Graduate Admissions.
- 2. Applicants must submit the results of a standardized graduate admission examination (e.g., GRE, MAT, GMAT, LSAT), and

score at the 50th percentile or above. Only official test scores received directly from the testing service are considered official and valid. However, the applicant may be exempt from the admission examination requirement by the program if:

- a. The baccalaureate degree is less than six years old at the time of application AND the undergraduate cumulative grade-point average was at least 2.75; OR
- b. The baccalaureate degree is more than six years old at the time of application AND the undergraduate cumulative grade-point average was at least 3.00; OR
- c. The student has completed the equivalent of 12 or more semester hours of Cleveland State graduate course work AND received a grade of B or better in each course; OR
- d. The student has successfully completed a master's degree from an accredited U.S. institution; OR
- e. For Graduate Certificate applicants only: The student provides documentation of requisite professional experience and professional competency in the area.
- 3. A \$30 graduate admission application fee is required unless the applicant previously has paid the fee as a graduate applicant. The fee is not refundable. Acceptance of a graduate certificate or graduate licensure applicant for admission is finalized by the Office of Graduate Admissions after the recommendation for admission by the appropriate departmental or college graduate committee is received in the Graduate Admissions Office.
- 4. Upon admission, graduate certificate and licensure students must meet with an advisor to prepare a program of study.

### **Submission of Materials**

All application materials for graduate certificate and graduate licensure programs must be submitted directly to:

Office of Graduate Admissions Rhodes Tower West, Room 204 Campus Box G Cleveland State University 2121 Euclid Avenue RTW 204 Cleveland, Ohio 44115-2214

Telephone: (216) 687-5599

Toll Free: 1-888-CSU-OHIO (ask for the Graduate

Admissions Office) Fax: (216) 687-5400 The Graduate Admissions Office maintains a central admissions file for all Cleveland State graduate certificate and graduate licensure applicants. As admission materials are received in the Graduate Admissions Office, copies of the documents [application form, official transcripts, letters of recommendation and official score reports (as required), etc.] are forwarded to the appropriate graduate program director, who forms a departmental file for the applicant. Once the departmental file is decision-ready, the graduate program director submits an admission recommendation to the Graduate Admissions Office. The Graduate Admissions Director transmits the admission action and supporting materials to the applicant.

Applicants are encouraged to call the Graduate Admissions Office regarding the status of their application.

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### INTERNATIONAL STUDENTS

An international student is anyone who holds a visa. These students must submit applications for graduate study to the Center for International Services and Programs, University Center, Room 302. A permanent resident is anyone who has been granted permanent resident status or refugee status. Permanent residents should apply through the Graduate Admission Office, Rhodes Tower West, Room 204.

### **Admission Requirements**

**Academic:** Baccalaureate degrees earned outside the U.S. must be equivalent to baccalaureate degrees earned in the U.S.

**Examinations:** In general, applicants who have a grade-point average less than 2.75 on a 4.00 scale must provide results of the General and Subject tests of the Graduate Record Examination (GRE), the Graduate Management Admissions Test (GMAT) for the M.B.A. and the Master of Accountancy programs, or the Miller Analogies Test (MAT) for the Master of Education and the Master of Applied Communication Theory and Methodology programs. For individual program requirements please refer to the chart on the previous page.

**Language:** The University requires all non-native English speakers to demonstrate proof of English-language proficiency. Any individual who has earned a bachelor's or higher degree from a U.S. institution where the primary language of instruction was English is not required to take an English language proficiency examination.

The options and minimum score requirements are as follows:

- 1. TOEFL (Test of English as a Foreign Language) score of 525 (197 for the computer-based TOEFL); OR
- 2. Pass the IELTS test (International English Language Testing System) with a minimum score of 6.0; OR
- 3. Pass the MELAB (Michigan English Language Assessment Battery) with a minimum score of 85; OR
- 4. Achieve a score of C (Pass) or better on the A and O levels of the General Certificate of Education (GCE or GCSE) Test; OR
- 5. Achieve a score of C (Pass) or better on the Cambridge Certificate of Advanced English (CAE); OR
- 6. Completion of English language studies (Level 109) from any of the ELS Language Centers; OR
- 7. Completion of course work at a "C" or better level for the equivalent of the CSU freshman English requirements at a U.S. regionally accredited college or university.

### **Documentation:**

- 1. Application form
- 2. All official original-language transcripts
- 3. Official translation of non-English-language transcripts
- 4. Proof of all degrees earned (diplomas)
- 5. TOEFL or alternative test score report
- 6. Appropriate standardized admission examination
- 7. Financial verification documentation
- 8. \$30 application fee.

### Submit all documents to:

Cleveland State University
Center for International Services and Programs (CISP)
University Center, Room 302
2121 Euclid Avenue UC302
Cleveland, Ohio 44115-2407
USA

Phone: (216) 687-3910 FAX: (216) 687-3965

E-mail: cispcsu@csuohio.edu

Web site: www.csuohio.edu/intguide/intguide.html

### **Application Deadlines**

- Fall Semester-June 1
- Spring Semester November 1

• Summer Term<March 15

**Financial Requirements:** All international students must supply to the Center for International Services and Programs proof of adequate financial resources before I-20 (F-1) or IAP-66 (J-1) documents can be issued to obtain the appropriate visa to enter the United States to study. For further details, contact the Center for International Services and Programs.

The only financial aid for which international students may qualify are graduate assistantships or tuition grants. Students should contact their academic departments directly for further details.

**Health and Medical Requirements:** International students attending Cleveland State University are required to present results of a tuberculosis test before being permitted to register at the University. All international students on an F-1 or J-1 visa must show proof of adequate health insurance before they will be permitted to register. For further details, please contact the Center for International Services and Programs at (216) 687-3910.

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The University reserves the right to amend its rules and regulations within the limits commonly accepted by colleges and universities. Students must keep themselves informed of amendments.

### **CREDIT HOUR LOAD**

In order to qualify as full-time graduate students, individuals must register for at least eight graduate credit hours. For the summer term, a full-time load is six credit hours per six-to-eight-week session with a maximum of eight credit hours. All students desiring to take more than 16 credit hours may do so only by an overload request approved by their program advisor, their Graduate Program Director, and the Graduate Dean.

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#### **GRADES**

The grades for graduate courses are as follows:

- A Superior graduate attainment. Valued at 4.0 quality points.
- A- Valued at 3.7 quality points.
- B+ Valued at 3.3 quality points.
- B Acceptable graduate attainment. Valued at 3.0 quality points.
- B- Attainment below graduate standards. Valued at 2.7 quality points.
- C Attainment below graduate standards. Valued at 2.0 quality points.
- F Failure. Valued at zero quality points.
- U Unsatisfactory performance by a graduate student in selected remedial undergraduate Mathematics courses. See the section on Remedial Courses below.

- Incomplete. A non-credit grade indicating course work has not been completed. An I grade must be removed within a maximum of one semester (by the last day of instruction of the second semester) of the term received or it converts to a grade of F, whether or not the student enrolls. An instructor may require course work to be completed earlier. Incomplete deadline dates are noted in the Course Schedule.
- T Temporary non-credit grade. The T grade can be given only in courses for which the offering department and the Graduate Dean have authorized its use. It is given for specialized training, independent study, or thesis/dissertation research that is progressing satisfactorily. Work that is given a T grade must be validated by a subsequent grade to count for graduate credit. T grades are not included in the calculation of the grade-point average.
- S May be used only for courses authorized by the Graduate Dean. S grades indicate satisfactory completion of a course at the grade level of B or better. Although credit is granted for all courses with an S grade, the S grade is not included in the calculation of the grade-point average.
- NA No Action. A neutral grade that does not factor into the calculation of the student's grade-point average or hours attempted. To be used only when a regular letter grade, an I, or an X grade is not appropriate.
- N/C No Credit audit grade for graduate courses. Not included in the calculation of the grade-point average
- NS Progress that is Not Satisfactory in a thesis, dissertation, or alternate exit project. This grade may be given only in courses authorized by the Graduate Dean. NS is a permanent grade designation. No credit is given for this grade, and it is not included in the calculation of the grade-point average.
- W Authorized Withdrawal. A grade of W is recorded when a student withdraws from a course (using the appropriate form and following the procedures outlined in the Withdrawal Policy section below) during the period extending from the beginning of the third week of the semester to the final date for withdrawal.
- X A grade assigned by an instructor when a student has not completed all assignments for reasons that cannot be determined. If a grade change is not submitted by the end of the following semester, the X becomes an F.

Note: There is no grade of D for graduate (500 to 899) courses. However, a D is a possible grade for graduate students enrolled in courses numbered 100 through 499.

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### WITHDRAWL POLICY

During the academic year a student may withdraw from a course through the end of the ninth week of the semester. Consult the Course Schedule for withdrawal deadlines.

After the final date for withdrawal, a student may officially withdraw from a course only by means of a petition approved by the Graduate College Petitions Committee (see the Exceptions and Petitions section of this Catalog).

Please note that the University Graduate Council has determined that poor academic performance on a midterm examination or in other course requirements does not constitute sufficient grounds for granting a student a late withdrawal from a course.

Withdrawal from a course without approval, as indicated above, constitutes a failure, and a grade of F will be recorded on the student's record.

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### **GRADE-POINT AVERAGE**

The academic standing of a graduate student is expressed as a cumulative grade-point average. This is determined at the end of each semester by dividing the total quality points (the summation of the credit hours multiplied by the point value for each class) by the total credit hours attempted in courses in which the student has received a grade of A, A-, B+, B-, C, or F. All grade-point averages are carried to two decimal places unrounded. After admission to a graduate program and registration as a graduate student, grades for all 400- to 800-level courses taken on a letter-grade or S/F basis are computed into a student's grade-point average.

**Academic Standing:** To be considered in Good Academic Standing, a graduate student must maintain a graduate grade point average of 3.00 or above.

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### REPEATING A COURSE

Repeating a graduate course does not eliminate an earlier recorded grade on the student's transcript. With the exception of courses designed to have variable content from semester to semester, repeating a graduate course does not affect the number of credit hours earned by a student.

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### REMEDIAL COURSES

The remedial Mathematics courses listed below are graded on an S/U basis. Graduate students do not receive credit toward meeting degree requirements for these courses when passed with an S grade. Grades of U do not influence a graduate student's grade-point average, nor are U grades considered in the University's academic dismissal regulations for graduate students.

- MTH 087
- MTH 088

See the most recent issue of the Undergraduate Catalog for descriptions of these courses.

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### **CHANGE OF GRADE**

Once the Registrar's Office receives a letter grade, a faculty member may change it only because of an error in computation, or due to a recording error. A change-of-grade request for a graduate course requires the approval of the Graduate Dean.

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### **AUDIT OF COURSES**

The grade of No Credit (N/C) is given when a student audits a course. Students who audit a course pay regular tuition but do not receive a letter grade or credit for the course. Only admitted students may audit a course.

An Authorization to Audit form must be presented when registering. It must include the signature of the student's program advisor. A student may not change his or her grading status in a course from audit to a regular grade basis, or vice versa, after the first week of classes.

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#### CREDIT BY EXAMINATION

A student may request to receive credit by examination for a course with departmental approval and with the permission of the Dean of the Graduate College. The grading of such examinations is conducted by a faculty member or committee from the department in which the student takes the examination. Performance must be at the B level or better to receive credit by examination. The student must pay a \$20 fee for each examination. Graduate Credit by Examination forms are available in the Graduate College Office (Fenn Tower, Room 1111) and the Graduate Admissions Office (Rhodes Tower West, Room 204).

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### **CROSS REGISTRATION**

In June of 1998, Cleveland State University, The University of Akron, Kent State University, and Youngstown State University approved an agreement that allows graduate degree-seeking students to cross register for graduate courses at these Northeast Ohio universities. Cross registration is not permitted for certificate, licensure, or non-degree Cleveland State graduate students.

In order to cross register for a course, a student must be in good standing, with a grade-point average higher than 3.00 and be within the time limits for completion of the degree program.

Cleveland State students must use the Approval for Acceptance of Graduate Course Work at Northeast Ohio Public Universities form (download at www. csuohio.edu/gradcollege/) to apply to take graduate-level courses at one of the other universities in the program. The student takes the course at

the host university by registering for a CSU Special Topics course with a title and course number corresponding to the course at the host institution [e. g., a special topics listing might be SOC 685 KSU Multivariate Time-Series Analysis (4-0-4)].

A student must receive approval at Cleveland State for cross registration from the department chair, the Graduate Dean, and the student's academic advisor, who determines whether or not the course work is appropriate to the student's degree program. The student must demonstrate that the course at the host institution is necessary for his or her program of study and that the course is not available at Cleveland State at a reasonable stage in the student's degree program. The student also must receive approval at the host institution from the course instructor, department chair, and the Graduate Dean.

Students may not cross register for thesis, research, and dissertation credits.

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### TRANSFER CREDIT

Transfer credit is subject to departmental regulations and is not permitted without the approval of the Graduate Program Committee concerned. Departments may limit transfer credit to less than the maximum permitted by the Graduate College.

- 1. All transfer credit must be earned at an accredited graduate college or university and not have been utilized to fulfill a requirement for any other degree.
- 2. Transfer credit cannot exceed nine graduate hours for master's degree students, and one-third of the total graduate hours required for certificate, licensure, and doctoral degree students. Requests for an extension of the limit on transfer credit must be approved by the department/program graduate committee. Such requests do not require review and approval by the Graduate College Petitions Committee.
- 3. All credits requested in transfer must carry a letter grade of A, A-, B +, or B in graduate courses. No S/F graded courses may be transferred. Petitions are not considered for an exemption from this requirement.
- 4. All transfer credit must be within the six-year statute of limitations on course work applicable to fulfillment of graduate degree,

certificate, or licensure requirements at the time of program completion. Requests for an extension of the six-year limit on transfer credit must be approved by the departmental/program graduate committee. Such requests do not require review and approval by the Graduate College Petitions Committee.

- 5. Students seeking transfer credit must have Regular Graduate Student Status and be in good academic standing at both Cleveland State University and the school where the credits were earned.
- 6. Students admitted to Cleveland State University must receive prior approval to take courses elsewhere as a Transient Student for transfer into their program.
- 7. Credit awarded in transfer is not recorded on a transcript until the student has completed 12 hours of graduate (500 to 800 level) course work at Cleveland State University and has achieved a graduate grade-point average of 3.00 or better.

Graduate Credit Transfer forms may be downloaded at www.csuohio.edu/gradcollege/ and also are available in the Graduate College Office and program offices.

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## APPICATION OF CREDITS TOWARD A SECOND ADVANCED DEGREE

A student who has earned either a master's or juris doctorate degree at Cleveland State may apply toward a subsequent advanced degree a maximum of 10 credits of graduate or law school course work earned toward the first degree under the following conditions:

- 1. The department granting the second degree has determined the acceptability of the credits;
- 2. The credits were earned with a grade of B or better; and
- 3. The credits were earned within the six-year statute of limitations on course work applicable to fulfillment of graduate degree requirements at the time of graduation from the second degree program.

Petitions to extend the time period to complete the second degree at Cleveland State must receive the approval of the departmental/program graduate committee. If approved by the departmental/program graduate committee, petitions to extend the time period to complete the second degree do not require review and approval by the Graduate College

Petitions Committee. However, if denied at the departmental level, requests for an extension of the time period to complete a second degree may be submitted to the Graduate College Petitions Committee for review and disposition.

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### UNDERGRADUATE COURSES TAKEN FOR GRADUATE CREDIT

With program approval, a registered graduate student may use a maximum of eight 400-level credits taken at Cleveland State to meet master's degree requirements. These courses may not be offered by the department/program in which the graduate degree would be awarded. No 400-level courses taken by a student as an undergraduate may be used for graduate credit.

A graduate student may not use courses below the 400 level to meet graduate degree, certificate, or licensure requirements, although the student may take such courses for remedial purposes or to remove deficiencies.

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### UNDERGRADUTE STUDENTS TAKING GRADUATE COURSES

An undergraduate student who is pursuing a baccalaureate degree at Cleveland State University may be granted permission to take one or more (maximum of nine credit hours) graduate courses, at the 500 level only, if the student meets all the following conditions:

- 1. The student must be within 30 hours of graduation;
- 2. The student must have an overall grade-point average of 2.75 or better through the preceding semester;
- 3. The student must have a 3.00 or better grade-point average in the major field; and
- 4. The student must obtain permission from his or her advisor, the instructor of the course, and the department chair, via signature on the Undergraduate Request for Graduate Course form.

An undergraduate student who is deficient in any of the above four respects may not take a graduate course without the approval of the dean of the college where the course is offered and the Graduate Dean.

Credit for these coursesÑup to a maximum of nine credits for courses where the grade received is B or aboveÑmay be applied at a later point to a graduate degree program provided that the credit was not used to satisfy baccalaureate degree requirements. Internal transfer of credit is subject to transfer credit regulations and procedures.

Post-baccalaureate students who are enrolled at the undergraduate level but are not pursuing a second bachelor's degree may not register for graduate-level classes. Post-baccalaureate students who are pursuing a second bachelor's degree at Cleveland State University may register for 500-level courses as long as the above four noted conditions are met.

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### **GRADUATE PROGRAM TRANSFER**

An admitted and enrolled graduate student may request transfer to another program in the University. The student should consult with his or her current graduate program and request that a copy of all admission credentials be forwarded (along with a Program Transfer form) to the program director of the new area of interest. Transfer is not effective until the new program renders a favorable decision and the request is approved by the Office of Graduate Admissions.

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### RE-ENROLLMENT

Former students who were in good academic standing at the end of their last semester in school and who have not attended another institution may file an Application for Re-Enrollment form with the Registrar's Office if they wish to re-enroll, and if there has been a lapse of two or more semesters (excluding the summer term) in their attendance at CSU. Academically dismissed students must file a petition for readmission, or obtain admission to a new graduate program (please see the Readmission section of this Catalog) in order to register at CSU.

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#### ACADEMIC DISMISSAL

Continuance in and dismissal from graduate degree, certificate, or licensure programs are functions of the graduate committee of the graduate program.

In the following cases, however, the actions described below are required.

- 1. Review by the Graduate Program Committee to determine a student's ability to continue in graduate school is required upon receipt (in 400- to 800-level courses) of:
  - a. one grade of F, or
  - b. two grades of less than B, or
  - c. two grades of NS.

If it is determined that the student may continue in the graduate program, the Committee should indicate to the student, in writing, the grounds under which continuation is possible. If the Graduate Committee determines that dismissal is in order, this recommendation is to be made to the Graduate Dean for review and final determination.

- 2. Mandatory dismissal by the Graduate College occurs if a graduate student (in 400- to 800-level courses):
  - a. receives two F grades, or
  - b. accumulates a total of nine credit hours of less than B grades and has a cumulative grade-point average below 3.00.

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### **READMISSION** [ADDENDA]

Normally, an academically dismissed degree, certificate, or licensure student may not be readmitted to the same program until one calendar year (12 months) has elapsed. However, an academically dismissed student may petition for early readmission. The student who seeks readmission must submit a petition to the chairperson of the department or the chairperson of the Graduate Program Committee. The committee shall act on the petition and present the committee's recommendations to the Graduate College Petitions Committee, whose decision shall be final.

An academically dismissed non-degree student must petition the Graduate College Petitions Committee for readmission consideration. Petition forms may be downloaded from the Graduate College web site at www.csuohio. edu/gradcollege, and also are available from the Graduate College Office

(Fenn Tower, Room 1111) and the Graduate Admissions Office (Rhodes Tower West, Room 204).

These readmission procedures do not apply to students who seek admission to a program other than the program from which they were academically dismissed. In these cases, the student is considered a new applicant. To initiate consideration of admission to a new program, a student should request that the current graduate program transfer a copy of his or her file to the director of the new graduate program of interest.

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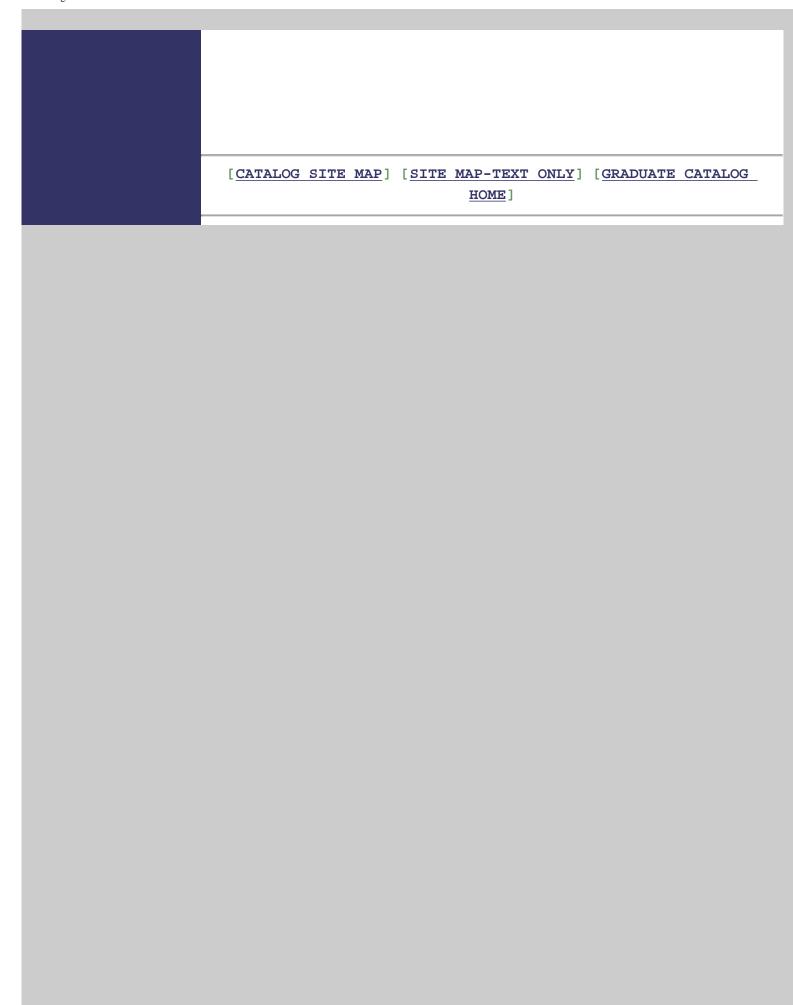
### ACADEMIC REASSESSMENT POLICY

A degree-seeking graduate student enrolled in the Graduate College may petition for academic reassessment for prior graduate course work taken at Cleveland State University. For individuals who wish to return to the same graduate degree program, there must be a three-year absence from the University before a reassessment petition can be submitted. For students who wish to enter a different graduate degree program, and for former non-degree, certificate, and licensure graduate students who wish to enter a graduate degree program, there must be a one-year absence from the University before a petition for academic reassessment can be submitted. Academic reassessment is not available to students who are currently enrolled on a graduate certificate, licensure, or non-degree basis.

If academic reassessment is granted, all previous courses taken and grades received at Cleveland State as a graduate student, and all transfer and transient credit granted while a graduate student at the University, will not be counted toward: 1) the number of credit hours taken and earned, 2) the cumulative grade-point average, and 3) the provisions for academic dismissal. All previous academic work remains on the student's graduate transcript, followed by an "Academic Reassessment" notation.

Academic reassessment petitions must have departmental/program-level support in order to be considered by the Graduate College Petitions Committee. Academic reassessment petitions that do not have departmental/program support are considered by the University Graduate Council. An academic reassessment petition may be granted only once during a student's graduate career at the University.

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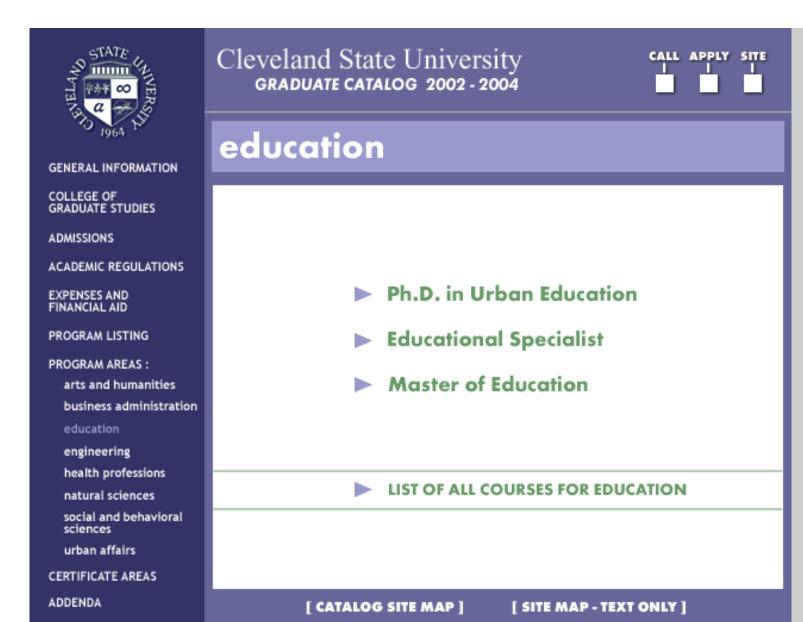
ADDENDA

### **MASTER'S PROGRAMS:**

- English
- History
- Music
- Philosophy
- Spanish

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## engineering

Doctor of Engineering

### MASTER'S PROGRAMS:

- Chemical Engineering
- Civil Engineering
- Electrical Engineering
- Engineering Mechanics
- Environmental Engineering
- Industrial Engineering
- Mechanical Engineering

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### **MASTER'S PROGRAMS:**

- Health Sciences
- Nursing
- Occupational Therapy
- Physical Therapy
- Speech Pathology and Audiology

For information on the Master of Public Health and the MBA in Health Care Administration, see

Business Administration

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## natural sciences

### Ph.D. PROGRAMS:

- Biology
- Chemistry

### MASTER'S PROGRAMS:

- Biology
- Chemistry
- Environmental Science
- Mathematics
- Physics

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POST MASTER'S PROGRAM:

Psychology Specialist

MASTER'S PROGRAMS:

Communication

Economics

Psychology

Social Work

Sociology

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## urban affairs

Ph.D. in Urban Studies and Public Affairs

### MASTER'S PROGRAMS:

- Environmental Studies
- Public Administration
- Urban Planning, Design, and Development
- Urban Studies

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## graduate certificates

- Adult Learning and Development
- Advanced Study in Bioethics
- Culture, Communication, and Health Care
- Data-Driven Marketing Planning
- Ergonomics/Human Factors
- Gerontological Studies
- Health Care Administration
- Middle Childhood Mathematics Education New
- Middle Childhood Science Education New
- Nonprofit Management
- OT & PT in the Schools
- Software Engineering
- Total Quality Management/Continuous Quality Improvement
- Urban Economic Development
- Urban Geographic Information Systems
- Urban Real Estate Development and Finance

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## Cleveland State University



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### PROGRAM LISTING - ALPHABETICAL BY DISCIPLINE

#### **DOCTORAL PROGRAMS:**

**Business Administration** 

**Engineering** 

**Clinical-Bioanalytical Chemistry** 

**Regulatory Biology** 

**Urban Education** 

**Urban Studies and Public Affairs** 

### **POST MASTER'S PROGRAMS:**

**Educational Specialist** 

**Psychology Specialist** 

### **MASTER'S PROGRAMS:**

### Accountancy

**Applied Communication Theory and Methodology** 

**Biology** 

**Business Administration** 

One-Year Accelerated MBA Program

**Executive MBA Program** 

JD/MBA Program

Health Care Administration Program

### **Chemical Engineering**

**Chemistry** 

**Civil Engineering** 

Communication

- See "Applied Communication Theory and Methodology"

**Computer and Information Science** 

**Economics** 

**Education** 

Adult Learning and Development Program

Community Health Education

**Counselor Education** 

**Curriculum and Instruction Programs** 

**Educational Administration** 

Sports Management/Exercise Science

**Electrical Engineering** 

**Engineering Mechanics** 

**English** 

**Environmental Engineering** 

**Environmental Sciences** 

**Environmental Studies** 

**Health Sciences** 

**History** 

Art History Specialization

**Industrial Engineering** 

**Labor Relations and Human Resources** 

Mathematics (M.A and M.S)

**Mechanical Engineering** 

Music

Nursing

**Occupational Therapy** 

**Philosophy** 

**Physical Therapy** 

**Physics** 

**Psychology** 

Clinical/Counseling Psychology Program

**Experimental Research Program** 

Consumer/Industrial Research Program

**Diversity Management Program** 

**Public Administration** 

**Public Health** 

**Social Work** 

**Sociology** 

**Spanish** 

**Speech Pathology** 

**Urban Planning, Design, and Development** 

**Urban Studies** 

### **GRADUATE CERTIFICATE PROGRAMS:**

**Adult Learning and Development** 

**Advanced Study in Bioethics** 

Culture, Communication, and Health Care

**Data-Driven Marketing Planning** 

**Ergonomics/Human Factors** 

**Gerontological Studies** 

**Health Care Administration** 

**Nonprofit Management** 

Occupational and Physical Therapy in the Schools

**Software Engineering** 

**Total Quality Management/Continuous Quality Improvement** 

**Urban Economic Development** 

**Urban Geographic Information Systems** 

**Urban Real Estate Development and Finance** 

#### **GRADUATE LICENSURE:**

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[READMISSION]

### Addenda

This page will be updated as new information develops on our graduate programs. Check this page periodically for updates.

### MASTER OF SCIENCE IN PHYSICS: MEDICAL PHYSICS SPECIALIZATION

(Information posted October 15, 2002)

The Cleveland State University Department of Physics and the Cleveland Clinic Foundation are partnered to provide Cleveland State graduate students the opportunity to earn a Master of Science degree in Physics with a specialization in Medical Physics. Medical physicists are highly skilled specialists who apply the concepts and methods of physics to the diagnosis and treatment of human disease. Examples of applications

include optimizing mamographic systems and helping to deliver radiation therapy to cancer patients. The Medical Physics program is suited for students who hold an undergraduate degree in physics, chemistry, or engineering (electrical, mechanical, chemical, nuclear). The program is intended for trained physicists and preparing them for the medical physics workforce, which presently is experiencing a staffing shortage nationwide.

#### ADMISSION INFORMATION

To be considered for admission to the Master of Science in Physics with a specialization in Medical Physics, applicants must meet Graduate College admission requirements (consult the Graduate Catalog) and hold a B.S. degree in physics, chemistry, electrical engineering, chemical engineering, mechanical engineering or nuclear engineering.

*Undergraduate Deficiencies:* For students applying to the Medical Physics program, the following courses must be taken if there are deficiencies in the applicant's undergraduate preparation:

PHY330 Introduction to Modern Physics PHY350 Electricity and Magnetism

PHY360 Electronics Laboratory

PHY474 Thermal Physics

BIO266 Human Anatomy and Physiology

BIO267 Human Anatomy and Physiology Laboratory

### **DEGREE REQUIREMENTS**

The Medical Physics program includes the following courses: <u>PHY 515</u>, <u>PHY 520</u>, <u>PHY 530</u>, <u>PHY 530</u>, <u>PHY 535</u>, <u>PHY 565</u>, <u>PHY 570</u>, and <u>PHY 598</u> (two semesters).

### **NEW COURSE DESCRIPTION**

PHY 515 Introduction to Biological Physics (4-0-4). As the body of knowledge in physics expands and diffuses into the life sciences, the need for instruction in biological physics increases. Students learn how to use the concepts of physics to analyze and understand important aspects of biological systems. The course is appropriate for graduate students majoring physics, chemistry, biology, or engineering.

#### **For More Information Contact:**

Dr. Miron Kaufman, Professor and Chair Department of Physics Science Building, Room 112 Cleveland State University 2121 Euclid Avenue SI112 Cleveland, OH 44115-2406s

Telephone: (216) 687-2425

Email: m.kaufman@csuiohio.edu

www.csuiohio.edu/physics/Grad/Grad.html

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### MASTER OF SOCIAL WORK: APPLICATION DEADLINE

(Information posted April 29, 2003)

The application deadline for the Master of Social Work (MSW) degree program is February 28th. See admission requirements and application procedures in the *Graduate Catalog*.

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### MASTER OF SOCIAL WORK: THE FACULTY

(Information posted October 15, 2002)

The following faculty have joined the Department of Social Work:

### **Assistant Professors:**

Charlla Allen David O'Malley

### **Promotion in Rank:**

Linda Crowell (The University of Akron) - Associate Professor

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## PH.D. IN URBAN STUDIES AND PUBLIC AFFAIRS: ADMISSION INFORMATION

(Information posted October 15, 2002)

In addition to observing admission requirements noted in the Graduate Catalog for the Ph.D. degree program in Urban Studies and Public Affairs, applicants must indicate one of the following specializations on their Application for Graduate Admission:

- a. Public Administration
- b. Economic Development
- c. Housing and Neighborhood Development
- d. Environmental Studies

For further information, contact the Urban Affairs Graduate Advising Office at (216) 523-7522 or the Graduate Admissions Office at (216) 687-5599.

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#### M.A. IN ENGLISH

(Information posted December 3, 2002)

Please note the following correction to the **Literature Concentration** core courses degree requirements that appear **in the CD Rom version** (1.0) of the Cleveland State University Graduate Catalog 2002-2004:

Item #1 (Degree Requirements) should read: Core courses (eight credits): ENG 510 and ENG 511.

(The Literature Concentration core course requirements in the on-line version, and the printed version, of the CSU Graduate Catalog are listed correctly as ENG 510 and ENG 511.)

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#### **COURSE LISTINGS:**

(Information posted December 6, 2002)

Courses listed in this Catalog are subject to change. For current information on course numbers, titles, and credit hours, consult the Cleveland State University **On-Line Course Schedule** at <a href="www.csuohio.edu">www.csuohio.edu</a>. In addition to including up to date information on courses, the online schedule includes real-time information on the number of seats available in classes during registration periods.

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### **EDUCATIONAL TECHNOLOGY**

(Information posted February 4, 2003)

For additional information on the **Educational Technology** specialization in the Master of Education degree program, visit the Educational Technology web site at: <a href="http://prometheus.ed.csuohio.edu/edtech/index.">http://prometheus.ed.csuohio.edu/edtech/index.</a> httml

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### **ETE 501: TECHNOLOGY STRAND**

(Information posted February 4, 2003)

For additional information regarding **ETE 501: Technology Strand**, a course in the Educational Technology specialization in the Master of Education degree program, visit <a href="http://wang.ed.csuohio.edu/ete501">http://wang.ed.csuohio.edu/ete501</a>. This site includes course information, credit-by-examination procedures, and credit-by-examination registration information.

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## M.A. IN HISTORY WITH A SPECIALIZATION IN SOCIAL STUDIES

(Information posted February 4, 2003)

The History Department offers an interdisciplinary program that leads to a Master of Arts degree in History with a specialization in Social Studies. The program is aimed at providing social studies teachers with new perspectives and deeper knowledge of the content areas encompassed under Social Studies (History, Anthropology, Economics, Political Science, Sociology) in order to help teachers be more effective in the classroom.

### **Admission Requirements**

Admission requirements are the same as those for the History program.

### **Degree Requirements**

Students are required to complete a total of 35 credit hours in approved courses with at least a 3.00 grade-point average.

Upon admission, each student must consult with the History Graduate Program Director in order to establish a general plan of study. HIS 697:

Independent Study in History can be taken only with the approval of the Graduate Program Director.

### Requirements

- 1. A minimum of 24 credits in History, which must include:
  - a. HIS 660 Social Studies in Context I (4 credits) and HIS 661 Social Studies in Context II (4 credits) and HIS 570 World History (4 credits)
  - b. any 600 level reading seminar (4 credits)
  - c. any two 500 or 600 level courses (8 credits)
- 2. Three credits in Economics: ECN 503 Economic Concepts
- 3. Four credits in Political Science:

One of the following:

PSC 501 Urban Politics

PSC 515 Public Policy and Administration

PSC 517 Political Parties and Elections

PSC 519 Public Opinion

PSC 521 Political Violence

PSC 527 Peaceful World Change

PSC 530 US National Security Policy

PSC 531 US Foreign Policy

PSC 534 US-Latin American Security Issues

PSC 540 Foundations of Political Thought

PSC 541 Modern Political Thought, or PSC 594 Special Topics In Political Science (with permission from the Chair

of the Political Science Department).

4. Four credits in Sociology:

Any 600 level seminar (excluding SOC 640, 650, and 651) or any 500 level course (excluding SOC 555 and independent study courses).

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Readmission: Graduate Degree, Certificate, or Licensure Students (Information posted June 30, 2003)

Normally, an academically dismissed degree, certificate, or licensure student may not be readmitted to the same graduate program until one calendar year (12 months) has elapsed from the end of the academic term of dismissal. After one calendar year, the academically dismissed student must submit an updated graduate admission application form to the chairperson of the academic department or the chairperson of the Graduate Program Committee. The readmission request must include a statement indicating the factor(s) responsible for the earlier academic dismissal, the student's goals and objectives and a plan of action for academic success in the program. The Graduate Program Director provides an admission or denial recommendation to the Graduate Admissions Director. If the request is approved, the department's readmission letter must state the conditions of the re-admission and the effective academic term.

An academically dismissed student may petition for early readmission. The student who seeks readmission before 12 months has elapsed from the time of dismissal must submit a Graduate Student Petition request to the chairperson of the academic department or the chairperson of the Graduate Program Committee. The committee shall act on the petition and present the committee's recommendations to the Graduate College Petitions Committee, whose decision shall be final.

Readmission requests for students who have been dismissed more than once from a graduate program must be submitted to the Graduate College Petitions Committee, regardless of whether the request is for readmission after one year or for early readmission.

The Graduate Student Petition form may be downloaded from <a href="www.csuohio.edu/gradcollege">www.csuohio.edu/gradcollege</a>, and is available from the Graduate College Office at 216/687-9370.

Return to Readmission section of Graduate Catalog for information on the readmission process for graduate non-degree students

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### **Online Application**

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### Do you have Questions?

If you are a prospective Cleveland State University Graduate Student and have questions, please complete the following <u>request information form</u> and a graduate admissions representative will respond to your questions.

If you are a current Cleveland State University Graduate Student
Please Contact the College of Graduate Studies at 216 687 9370 or Fax

Please Contact the College of Graduate Studies at 216.687.9370 or Fax: 216.687.9214



### **Mailing Address**

Cleveland State University College of Graduate Studies 2121 Euclid Avenue Parker Hannifin Hall 218 Cleveland, OH 44115-2214

### **Campus Location**

Parker Hannifin Hall, Room 218 2258 Euclid Avenue

Phone: 216.687.9370 Fax: 216.687.9214

### **Web Content Contact**

Charles Newton grad@csuohio.edu

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### **Doctor of Business Administration**

### **College of Business Administration**

Ahuja Hall 420 (216 687-6952 www.cba.csuohio.edu/mba/DBA.htm

### THE FACULTY

See faculty listed in the departmental entries of the Master of Business Administration program description.

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#### INTRODUCTION

The objective of the Doctor of Business Administration (D.B.A.) program is to develop within each candidate an expertise in a functional area of business administration with specialized applications and knowledge in international business so that he or she may advance business theory and practice and enhance the contributions that business can make to the larger community.

The D.B.A. degree prepares the student for a rewarding academic career in teaching and research at the college or university level. Alternatively, the program offers advanced training in a variety of business areas that should

significantly enhance the student's business career development. Regardless of the career path selected, the D.B.A. program provides students with an intellectually challenging and rewarding experience.

The D.B.A. program is designed to provide an academically rigorous experience to a diverse population of non-traditional students. The D.B.A. degree can be pursued on either a part-time or full-time basis. To provide flexibility and to meet the needs of part-time students, course work is offered through evening and weekend classes. A limited number of research or teaching assistantships provides financial support for full-time graduate students. Students with assistantships take nine to 12 credit hours of course work, and are expected to devote 20 hours per week of teaching or research assistance to the College of Business Administration, per semester.

Students must choose a major area of specialization and take additional course work in complementary fields. The D.B.A. degree is currently offered with the following majors:

- Finance
- Management and Labor Relations
- Marketing
- Production/Operations Management

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#### ADMISSION INFORMATION

In addition to meeting Graduate College requirements for admission, an applicant to the D.B.A. program must hold a master's degree in business administration (M.B.A. or equivalent) from an accredited college or university and must meet the following standards:

- 1. At least 1,260 points based on the following formula: 200 times the graduate grade-point average plus the total score of the Graduate Management Admission Test (GMAT). A minimum score at the 70th percentile on the GMAT is required. GMAT scores should be reported from a test taken within the five years immediately prior to application to the D.B.A. program.
- 2. The formula outlined above serves only as a general guideline to the Doctoral Program Faculty Committee, which makes the final admission decisions. Applicants also must submit a current resume, a statement of goals and objectives, and two letters of recommendation, at least one of which should be from a college professor familiar with the applicant's graduate-level performance and academic ability.

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#### PREPARATORY PROGRAM

The basic preparation for the D.B.A. program is the Master of Business Administration (M.B.A.) degree or its equivalent (e.g., Master of Accountancy) from a program accredited by AACSB International, the Association to Advance Collegiate Schools of Business. If the applicant's master's degree is not an M.B.A. (or its equivalent) from an AACSB-accredited program, the student must present evidence of the completion of the 500- and 600-level core requirements (or their equivalents) for the College of Business Administration's M.B.A. program before being admitted to the D.B.A. program. An application, an official transcript from each college and university previously attended, and other application materials must be sent to the Office of Graduate Admissions, Cleveland State University, 2121 Euclid Avenue, Cleveland, Ohio 44115.

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### REQUIREMENTS FOR THE DBA DEGREE

### Requirements for the D.B.A. Degree

1. Completion of a minimum of 68 semester credit hours (44 hours of courses, 24 hours of doctoral research) with a minimum gradepoint average of 3.00.

Enrollment in D.B.A. classes is limited to students admitted to the D.B. A. program.

Each D.B.A. student must complete the following program of study, including specific core, major, and support courses, seminars, electives, and doctoral dissertation research:

- a. Foundational Courses (includes courses in Logic of Inquiry, Advanced Microeconomics, and Teaching Seminar) (minimum nine credits)
- b. Advanced Analytical and Operational Core (nine to 12 credits)
- c. Major (minimum 15 credits)
- d. Support Field (minimum nine credits)
- e. Additional research (six to eight credits)
- f. Dissertation Research (minimum 18 credits)

Students must register for 12 dissertation research credits per semester

during the first year of the dissertation. After the first year, students must register for a minimum of one dissertation credit hour each semester until the dissertation is completed. Permission of the D.B.A. Director must be obtained prior to registering for any courses numbered 891, 895, 896, or 899.

### 2. Selection of a major advisor and an advisory committee.

As the student progresses toward the research phase of the program, the student selects a major research advisor. In consultation with the major advisor, the student selects at least three additional Graduate Faculty members to comprise the advisory committee. Of these three members, one must be a member of the Graduate Faculty within the student's major area of specialization, and another must be a Graduate Faculty member from outside of the College of Business Administration. The major advisor and the composition of the advisory committee may change during a student's program of study due to changes in faculty availability and/or changes in a student's needs or interests.

### 3. Attendance at doctoral and College seminars.

Doctoral students at the pre-dissertation stage are encouraged to attend regular dissertation research seminars to hear presentations from faculty members, outside speakers, and doctoral students. Attendance at the dissertation research seminars is mandatory for students in the dissertation stage.

### 4. Satisfactory performance in the comprehensive examinations.

Upon completion of formal course work, the student must demonstrate competence in the major and support areas of specialization by passing the required comprehensive examinations. These written examinations are prepared and graded by the Graduate Faculty making up the Doctoral Committees from the major area of specialization and the support area. These examinations are scheduled and administered by the Director of the D.B.A. Program twice a year and must be completed satisfactorily before beginning the dissertation.

### 5. Presentation and defense of the dissertation proposal.

Upon completion of the formal course work and the comprehensive examinations, the student prepares a dissertation proposal in his or her major area of specialization. Upon approval by the major advisor, the student makes an oral presentation and defense of the proposal to the Dissertation Committee and the College of Business Administration Faculty.

#### 6. Presentation and defense of the dissertation.

Upon completion of the dissertation, the student makes an oral presentation and defense of the dissertation to his or her committee and the College of Business Administration Faculty.

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## ADVANCED ANALYTICAL AND OPERATIONAL CORE AND TEACHING SEMINAR

D.B.A. students begin their course work by completing the courses in the Advanced Analytical and Operational Core and Teaching Seminar while limiting their course work in the major. This core is designed to help students develop technical and research skills, as well as the ability to solve administrative problems.

### **Preparatory Requirement**

OMS 733 Multivariate Statistical Methods (3-0-3)

#### Courses

DBA 802 Applied Multivariate Statistical Analysis (4-0-4)
DBA 803 Business Research: Analysis and Applications (4-0-4)

A teaching effectiveness course is offered to ensure that the student develops the skills needed to become an effective instructor. It should be taken at the beginning of the student's doctoral course work.

DBA 720 Seminar on Business Teaching Methods (2-0-2)

### **Workshops**

Several workshops assist D.B.A. students through various stages of their program. These include sessions on enhancing teaching and computer skills, research methodology, and planning and completing the dissertation. In addition, a special workshop is offered each year to help prepare students for their comprehensive examinations.

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### REQUIREMENTS FOR THE MAJOR AND SUPPORT AREA

Each D.B.A. candidate chooses a major area of specialization within the College of Business Administration and a support area. The departments offering the major and support area course work may prescribe additional preparatory requirements beyond the minimum preparation for admission to the D.B.A. program. The student's academic advisor and the D.B.A. Director work with the student to prepare a program of study, including any needed preparation. Depending on the student's background and research interests, he or she may be required to complete more than the minimum number of courses required in the major and/or support area.

The following sections present the requirements for the major and support area specializations offered by the departments within the College of Business Administration.

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### FINANCE (FIN) MAJOR

### **Preparatory Requirements**

An M.B.A. degree (or the equivalent) is required, including a strong background in the theory of finance, financial management, and intermediate-level micro-economics. More specifically, a candidate should have completed the following finance courses (or their equivalents):

FIN 501	Financial Management
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FIN 601 Financial Policies

### Courses

<b>FIN 80</b>	1 Theory Seminar	(3-0)	-3)
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FIN 802 Seminar in Corporate Finance (3-0-3)

FIN 803 Seminar in Investment and Portfolio Models (3-0-3)

FIN 804 Seminar in Financial Institutions and Markets (3-0-3)

FIN 805 Seminar in International Financial Management (3-0-3)

FIN 806 Seminar in Real Estate (3-0-3)

FIN 807 Applied Research Methods and Design in Finance (3-0-3)

FIN 891 Doctoral Research in Finance (variable credit)

FIN 895 Dissertation Research Seminar (3-0-3)

FIN 896 Current Problems in Finance (variable credit)

FIN 899 Dissertation (variable credit)

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### MANAGEMENT AND LABOR RELATIONS MAJOR

### **Preparatory Requirements**

An M.B.A. degree (or the equivalent) is required, including a strong background in management and organizational theory and a good understanding of the application of computers to the analysis of organizational problems. More specifically, a candidate should have completed the following courses (or their equivalents):

MLR 501 Management and Organizational Behavior
MLR 601/701 Human Resources Management and Labor Relations

At least two graduate-level electives (or their equivalents) from the following list also are required:

MLR 602/702	Advanced Wage and Employment Theory
MLR 604/704	Interpersonal Relations and Group Dynamics
MLR 605/705	Organizational Development
MLR 640/740	Performance Appraisal and Compensation Systems
MLR 641/741	Employment Planning, Personnel Selection, and Training

### **Courses**

<u>MLR 800</u>	Research Design and Measurement (3-0-3)
MLR 801	Theory Seminar (3-0-3)
MLR 802	Current Topic Professional Seminar (3-0-3)
MLR 803	Seminar in Organizational Behavior (3-0-3)
MLR 804	Seminar in Strategic Management (3-0-3)
MLR 805	Seminar in Labor Relations (3-0-3)
MLR 806	Seminar in Human Resource Management (3-0-3)
MLR 807	Seminar on Organization Development (3-0-3)
MLR 891	Doctoral Research in Management and Labor Relations (variable
credit)	
MLR 895	Dissertation Research Seminar (3-0-3)
MLR 896	Current Problems in Management and Labor Relations (variable
credit)	
MLR 899	Dissertation (variable credit)

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### **MARKETING MAJOR**

### **Preparatory Requirements**

An M.B.A. degree (or the equivalent) is required, including a strong background in marketing theory, marketing practices, and marketing research. More specifically, a candidate should have completed the following courses (or their equivalents):

MKT 501 Marketing Theory and Practice

MKT 601 Marketing Management

MKT 602/702 Marketing Research

At least two graduate-level electives (or their equivalents) from the following list are required:

MKT 603/703 Buyer Behavior

MKT 604/704 Strategic and Tactical Marketing

MKT 605/705 Services Marketing

MKT 606/706 Advertising and Promotion Management

MKT 607/707 Product Management

MKT 608/708 Global Marketing

MBA 602/702 International Business

### **Courses**

MKT 801 Marketing Theory (3-0-3)

MKT 802 Global Business Strategy: Theory and Practice (3-0-3)

MKT 803 Strategic Marketing and Tactical Decisions (3-0-3)

MKT 804 Multivariate Techniques in Marketing (3-0-3)

MKT 805 Theory and Research in Buyer Behavior (3-0-3)

MKT 891 Doctoral Research in Marketing (variable credit)

MKT 895 Dissertation Research Seminar (3-0-3)

MKT 896 Current Problems in Marketing (variable credit)

MKT 899 Dissertation (variable credit)

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### PRODUCTION / OPERATIONS MANAGEMENT (OMS)

### **Preparatory Requirements**

An M.B.A. degree (or the equivalent) is required, including a strong background in quantitative methods, applied probability, statistics, and mathematics. A candidate should have completed the following courses (or their equivalents):

OMS 503 Statistical Methods for Business Decisions

OMS 511 Operations Management

OMS 601/701 Business Decision Methods

OMS 633/733 Multivariate Statistical Methods

At least one elective (or its equivalent) from the following list also is required:

OMS 611/711 Forecasting

OMS 622/722 Project Management

OMS 623/723 Materials and Supply Chain Management

#### **Courses**

OMS 801	Theory	of O	ptimization i	n Production	and O	perations	(3-0-3)

OMS 802 Current Topic Professional Seminar (3-0-3)

OMS 804 Production Planning and Inventory Control (3-0-3)

OMS 805 Quality Control (3-0-3)

OMS 814 Flexible Manufacturing Systems (3-0-3)

OMS 819 Operations Strategy (3-0-3)

OMS 822 Project Management and Scheduling (3-0-3)

OMS 891 Doctoral Research in Production/Operations Management (variable

credit)

OMS 895 Dissertation Research Seminar (3-0-3)

OMS 896 Current Problems in Production/Operations Management (variable

credit)

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### Master of Business Administration

### **College of Business Administration**

Ahuja Hall 219 (216) 687-3730 www.cba.csuohio.edu/mba/

### THE FACULTY

See appropriate program areas in this section for listings of College of Business Administration faculty.

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### INTRODUCTION

The Master of Business Administration program is designed for students with undergraduate training in either business or non-business areas. The overall purpose of the program is to prepare individuals for careers in management. More specifically, its aim is to provide an opportunity for men and women to develop knowledge, abilities, attitudes, and understanding that will constitute a foundation for their growth into competent and responsible business managers.

The program is designed to meet the needs of both full-time and part-time students. All required courses are offered both during the day and in the

evening. Special off-campus programs may be designed at the request of a business to meet the needs of its employees and those of surrounding businesses.

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#### ACCREDITATION

The graduate business programs of the James J. Nance College of Business Administration are accredited by AACSB International, the Association to Advance Collegiate Schools of Business. In addition to the business accreditation, the curricula of the Accounting Department have accounting accreditation from the AACSB. The accounting programs at Cleveland State were the first in the State of Ohio to receive this accreditation. The Health Care Administration specialization is accredited by the Accrediting Commission on Education for Health Services Administration (ACEHSA).

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#### FINANCIAL ASSISTANCE

The College of Business Administration has a limited number of tuition grants and graduate assistantships available each year. Tuition grant awards are generally reserved for first-year M.B.A. students and require a nine- to 12-credit-hour course load, and 10 hours of service per week to the College. Graduate assistantships are generally reserved for second-year M.B.A. students and require a nine- to 12-credit-hour course load, and 20 hours of service per week. Application forms may be obtained in the Graduate Business Programs Office.

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#### ADMISSION INFORMATION

Applicants for the Master of Business Administration program must have:

1. A total of at least 950 points based on the formula: 200 times the overall grade-point average plus the Graduate Management Admission Test (GMAT) score; or at least 1,000 points based on the formula: 200 times the upper-division grade-point average plus the GMAT score.

- 2. The Master's Programs Committee of the College of Business Administration meets periodically to review admission standards. Please call the Graduate Business Advising Office at (216) 687-3730 to obtain additional information.
- 3. Students scoring below the 20th percentile on the verbal section of the GMAT are required to take the following remedial courses in business communication: GAD 502 (16th through 19th percentile); or GAD 501 and GAD 502 (below 16th percentile). Students scoring below the 25th percentile on the quantitative section of the GMAT are required to take a two-credit course, OMS 500. The GMAT may be waived for applicants holding a Ph.D. or M.D. degree. Medical doctors must be licensed to practice in the United States in order to take advantage of this waiver. Registration information for the GMAT is available in the Office of Graduate Admissions, Rhodes Tower West, Room 204. For GMAT test information, visit the web site at www.gmat.com. A score from the Graduate Record Examination (GRE) cannot be substituted for the GMAT.
- 4. An official transcript from each college and university previously attended must be sent to the Office of Graduate Admissions.

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#### **NON-DEGREE STUDENTS**

Non-Degree students and those awaiting admission to graduate programs in the College of Business Administration are allowed to take a maximum of 12 credit hours from the following list of courses:

- ACT 501 Financial Accounting
- **ECN 503** Economic Concepts
- FIN 501 Financial Management
- GAD 501 Business English
- GAD 502 Intermediate Business English
- GAD 515 Communications for Managers
- **IST 501** Information and Computer Technology Concepts
- IST 502 Information Technology
- MBA 500 Environment of Business
- MLR 501 Management and Organizational Behavior
- MKT 501 Marketing Theory and Practice
- OMS 500 Mathematical Models for Business
- OMS 503 Statistical Methods for Business Decisions
- **OMS 511 Operations Management**

A student must be admitted as a Regular graduate student in the M.B.A. program before being allowed to register for more than 12 graduate credit hours in the College of Business Administration.

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#### **DEGREE REQUIREMENTS**

The Master of Business Administration degree is awarded on the basis of successful completion of a minimum of 31 credit hours of upper-level M.B.A. courses (Level III). Preparation for taking Level III courses is through completion or waiver of all Level I and Level II course requirements. Students are not normally allowed to register for Level III courses until all Level I and Level II courses have either been taken or waived. Exceptions must be approved by the M.B.A. Program Director.

Courses in the three levels are as follows:

#### Level I: Basic Skill Proficiency

Courses in Level I are specially designed to bring skills up to acceptable levels for doing graduate-level work. These courses are waivable; please consult with the program advisor.

<u>IST 501</u> Information and Computer Technology Concepts (2-0-2)

IST 502 Information Technology (1-0-1)

GAD 501 Business English (4-0-4)

GAD 502 Intermediate Business English (3-0-3)

OMS 500 Mathematical Models for Business (2-0-2)

OMS 503 Statistical Methods for Business Decisions (3-0-3)

#### Level II: Basic Business Knowledge

Courses in Level II are designed to provide knowledge of the basic business disciplines to prepare students for the upper-level M.B.A. courses. These courses are waivable on the basis of recent undergraduate business course work.

ACT 501 Financial Accounting (3-0-3)

ECN 503 Economic Concepts (3-0-3)

FIN 501 Financial Management (3-0-3)

GAD 515 Communications for Managers (3-0-3)

MBA 500 Environment of Business (3-0-3)

MLR 501 Management and Organizational Behavior (3-0-3)

MKT 501 Marketing Theory and Practice (3-0-3)

OMS 511 Operations Management (3-0-3)

#### Level III: Upper-Level M.B.A. Courses

These three groups of required courses are the heart of the M.B.A. curriculum:

#### **Group A: Functional Core**

ACT 600 Managerial Accounting (2-0-2)

FIN 601 Financial Policies (3-0-3)

MLR 601 Human Resources Management and Labor Relations (3-0-3)

MKT 601 Marketing Management (3-0-3)

#### **Group B: Integrative Core**

MBA 600 Team Dynamics (1-0-1)

MBA 602/702 International Business (3-0-3)

MBA 603 Management of Innovation, Technology, and Quality (3-0-3)

MBA 660 Integrative Business Strategy (4-0-4)

#### **Group C: Electives**

Three graduate business electives (at least two at the 600 level) from any functional business area. Courses listed in Levels I and II of the M.B.A. program cannot be taken as electives. Only ONE of the following can count as a third elective:

MBA 690 Business Internship (3-0-3)

MBA 698 Research Project (one to four credits)

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#### ADDITIONAL REQUIREMENTS

The required credit hours of course work must be completed with the following conditions:

- All credit hours of work must be business courses, taken either at Cleveland State University or transferred from another business college (see "Transfer of Credit" below).
- One of the three electives may be a 500-level course. See the individual

course descriptions under each department for a list of available courses.

- A minimum grade-point average of 3.00 in total work attempted while registered in the M.B.A. program is required. Graduate College regulations regarding grades below "B" are applicable.
- Level III courses must be completed within six years prior to the proposed graduation date.

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#### TRANSFER OF CREDIT

Transfer credit will be granted for no more than nine semester hours of Level III courses, provided that the courses were completed for graduate credit at an institution accredited by the AACSB. Graduate courses may not be transferred from other colleges of Cleveland State University, except as allowed by the J. D./M.B.A. program.

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#### **SPECIALIZATION**

Within the M.B.A. curriculum, specialization can be earned by taking three elective courses (no more than one at the 500 level) within any of the following business disciplines: Accounting, Finance, Health Care Administration, Information Systems, Management and Labor Relations, Marketing, and Operations Management and Business Statistics.

Specialization also can be earned in Business Economics. Refer to the Master of Arts in Economics program description in this Catalog for a list of courses and their descriptions.

The College of Business Administration also offers the following master's degree programs in specialized areas:

- Master of Accountancy
- Master of Computer and Information Science
- Master of Labor Relations and Human Resources
- Master of Public Health

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#### ONE-YEAR ACCELERATED MBA PROGRAM

The Accelerated M.B.A. program enables an employed person to complete the M.B.A. degree within a calendar year by attending classes on Saturdays and alternating Friday evenings. To qualify for admission, applicants must have a total of at least 1,050 points based on the formula: 200 times the overall grade-point average plus the GMAT score. Applicants to the A.M.B.A. program must be able to waive all Level I and Level II course requirements. This program is ideal for students with a recent bachelor's degree in business, or those candidates who have completed the necessary first-year M.B.A. prerequisites. Participants can begin the program at one of two start dates each year, and progress as a cohort group to the completion of their degrees. A.M.B.A. programs begin in early January and end in November or begin in early August and end in June of the following year. Class sizes are limited. Application deadline for the January program is November 1, and for the August program, June 1. Contact the A.M.B.A. office at (216) 687-6925 for a program brochure.

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#### **EXECUTIVE MBA PROGRAM**

The College of Business Administration offers an Executive Master of Business Administration (E.M.B.A.) program for business men and women currently employed in positions of responsibility. The program consists of a two-year sequence of courses with emphasis on critical management skills. A new group starts each August with an off-campus residency week. Classes meet on a three-Saturday-one-Friday cycle during two academic years. The program includes an international study tour and one class elective. Candidates must meet career qualifications as well as M.B.A. admission requirements. Contact the E.M.B.A. office at (216) 687-6925 for a program brochure.

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#### THE JD/MBA PROGRAM

The joint design of the curriculum leading to the degrees of Juris Doctor and Master of Business Administration permits the student to complete both degrees over a maximum of four years instead of the five years that would normally be required to complete the two degrees separately.

Applicants to the Joint Degree Program must apply for admission to both the

College of Graduate Studies and the College of Law concurrently and follow the normal procedures of the respective colleges. Application for admission must be specifically for the Joint Degree Program. The student will not be allowed under any circumstances to take more than eight years to complete the combined programs.

All requirements for both programs must be completed before degrees will be awarded. If a student elects to receive one degree before completing the requirements for the other degree, forfeiture of some transfer credit will result, and the student will no longer be in the Joint Degree Program.

A student under the Joint Degree Program must begin the first year of work in the College of Law. The student's second year of study consists of the first year's curriculum of the Master of Business Administration program.

The Joint Degree Program requires a total of four academic years. The Juris Doctor requirements are fulfilled by the completion of 74 semester credit hours of work in the College of Law, including all required courses, as well as nine credit hours transferred from Master of Business Administration courses. The M.B.A. requirements are fulfilled by the completion of 22 credit hours of required Level III M.B.A. courses, as well as nine credit hours transferred from law courses. In order to ensure that the degree requirements of both programs are fully maintained, while at the same time permitting the saving of a full academic year, students who pursue the combined programs are not permitted to take elective courses outside of either the College of Law or the M.B.A. program for credit toward either degree.

For information about the J.D./M.B.A. Program, call the M.B.A. Programs Advising Office at (216) 687-3730.

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#### HEALTH CARE ADMINISTRATION PROGRAMS (HCAP)

Cleveland State University's Health Care Administration Programs provide academic training, internships, and career guidance for three master's degree programs and two professional certificates:

- The M.B.A. in Health Care Administration (M.B.A./HCA) is granted by the College of Business Administration
- The <u>Master of Public Health</u> (M.P.H.) is offered in partnership with four other universities in Northeast Ohio
- The <u>Master of Public Administration with the Health Care</u>
   <u>Administration concentration</u> (M.P.A./HCA) is a joint offering of
   Cleveland State University's College of Urban Affairs and the College

of Business Administration

- Graduate Certificate in Health Care Administration
- Graduate Certificate in Total Quality Management/Continuous Quality Improvement

E-mail inquiries about the graduate programs and requests for application materials may be directed to hcaprograms@csuohio.edu. Prospective students are strongly encouraged to consult the following sources for the most current information:

- The HCA Program office at (216) 687-4711
- The HCA web page at www.csuohio.edu/hca
- The M.P.H. web page at www.NEOUCOM.edu/MPH

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business administration:

# accountancy



**Assistant Professor:** 



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#### Master of Accountancy

## **Department of Accounting**

Ahuja Hall 512 (216) 687-4720 www.cba.csuohio.edu/mba/MAFIS.htm

#### THE FACULTY

**Professors:** 

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Richard A. Epaves,	Byron Baird, Emeritus	Scott A. Yetmar
Emeritus	Theresa Johnson Holt	
Jayne Fuglister	Bruce McClain	
Lal C. Jagetia, Emeritus	Joseph M. McKeon, Jr.,	
Elise G. Jancura, Emerita	Emeritus	
Lawrence A. Kreiser,	Heidi Meier	
Chair	Eric Obersteiner, Emeritus	
David Meeting	Sidney Paul, Emeritus	
Charles Nagy, Emeritus	Peter Poznanski	
	Etzmun Rozen	
	Abba V. Spero	

**Associate Professors:** 

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#### **ACCREDITATION**

The graduate programs of the James J. Nance College of Business

Administration are accredited by AACSB International. In addition to the business accreditation, the curricula of the Accounting Department have accounting accreditation from the AACSB. The accounting programs at Cleveland State were the first in the State of Ohio to receive this accreditation.

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#### INTRODUCTION

The primary aim of this program is to develop competent accountants, knowledgeable in the areas of professional practice financial accounting audit and tax. The program accommodates students on a full-time or part-time basis. This program appeals to four general classifications of students:

- 1. Undergraduate accounting majors who wish to broaden their knowledge of accounting and expand their expertise in financial accounting/audit or taxation.
- 2. Undergraduate computer and information science majors who wish to expand their expertise to the area of accountancy.
- 3. Undergraduate business administration majors in areas other than accounting and computer and information science who wish to specialize in accountancy.
- 4. Students with undergraduate preparation in any area and a strong interest in the practice of accountancy.

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#### FACULTY RESEARCH AND PUBLICATIONS

Accounting faculty members have published numerous books and journal articles. For example, they have written or edited textbooks on computer auditing and control, cost accounting, financial accounting, and federal taxation. Articles written by departmental faculty have appeared in the following journals:

Accounting Review
Journal of Accounting Research
Behavioral Research in Accounting
Journal of Accountancy
The Internal Auditor
The Ohio CPA Journal
Quality Circle Trends
The International Journal of Accounting

The Management Accountant
Industrial Marketing Management
Cornell Hotel & Restaurant Administration Quarterly
Journal of Taxation
Journal of Accounting Education
Journal of Management Information Systems
Information Systems Audit and Control Journal
Journal of Systems Management
Baylor Business Studies
Applied Business and Administration Quarterly
The Practical Accountant
Journal of Business, Finance, and Accounting
Corporate Controller
Practical Tax Strategies

Extensive computer facilities and databases are available to aid the research efforts of faculty members and graduate students.

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#### FINANCIAL ASSISTANCE

The College of Business Administration has a limited number of graduate assistantships available each year. Students may apply for an assistantship by completing an application form available from the Graduate Business Programs Office. Copies of completed applications are circulated to department chairs, graduate program directors, and other appropriate parties within the College. Interviews with prospective graduate assistants are arranged directly by department chairs and others who hire and supervise graduate assistants.

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#### CAREER INFORMATION

The Master of Accountancy is designed to prepare students for careers in business, internal audit, government, and public accounting. The primary goals and objectives of the program are to develop competent accounting professionals who are knowledgeable in the various areas of professional practice and who possess:

1. the ability to provide, interpret, and communicate financial and operating information essential to understanding the activities of an

enterprise;

- 2. the preparation to assume increasing levels of responsibility and leadership in the organizations they join; and
- 3. the qualifications to enter advanced programs in business and/or accounting.

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#### PROGRAMS OF STUDY

The Master of Accountancy allows the student to pursue one of two programs of study:

- 1. **The Financial Accounting/Audit program** is designed to develop competent accountants, knowledgeable in financial processes and procedures who are able to provide and interpret sophisticated financial information for the business community.
- 2. **The Tax program** prepares individuals for entry into, as well as advancement in, professional tax practice.

The Master of Accountancy provides students with the opportunity to develop basic technical and statistical skills, to obtain a knowledge of the business disciplines, and to pursue advanced course work in accounting or taxation. Graduates of the program are prepared to enter the accounting profession and to pursue satisfying and stimulating lifelong careers. Many graduates join public accounting firms, while others seek a variety of positions in the private and public sectors. Graduates of the program are well received and perform well in their job assignments, according to employers of graduates of the program. A large percentage of students become CPAs, and recently there has been an increased interest in the Certified Management Accountant (CMA), the Certified Internal Auditor (CIA), and the Certified Information Systems Auditor (CISA) examinations.

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#### **ADMISSION INFORMATION**

Applicants to the Master of Accountancy program must have:

1. A total of at least 950 points based on the formula: 200 times the overall grade-point average plus the Graduate Management Admission Test (GMAT) score; or at least 1,000 points based on the formula: 200 times

the upper-division grade-point average plus the GMAT score.

- 2. Students scoring below the 20th percentile on the verbal section of the GMAT are required to take the following remedial courses in business communication: GAD 502 (16th through 19th percentile); or GAD 501 and GAD 502 (below 16th percentile). Students scoring below the 25th percentile on the quantitative section of the GMAT are required to take a two-credit course, OMS 500. The GMAT may be waived for applicants holding a Ph.D. or M.D. degree. Medical doctors must be licensed to practice in the United States in order to take advantage of this waiver. Registration information for the GMAT is available in the Office of Graduate Admissions (Rhodes Tower West, Room 204) or the Cleveland State University Testing Center (University Center, Room 253B). For GMAT test information, visit the web site at www.gmat. com. A score from the Graduate Record Examination (GRE) cannot be substituted for the GMAT.
- 3. An official transcript from each college and university previously attended must be sent to the Office of Graduate Admissions.

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## **DEGREE REQUIREMENTS**

The Master of Accountancy is awarded on the basis of successful completion of the 33 credit hours of Professional Preparation (Level III). Preparation for taking Level III courses is through completion or waiver of all Level I and Level II course requirements. Students are not normally allowed to register for Level III courses until all Level I and Level II courses have been either taken or waived. Exceptions must be approved by the Master of Accountancy Program Director.

Courses in the three levels are as follows:

### Level I: Basic Skill Proficiency

(15 credits)

Courses in Level I are specially designed to bring skills up to acceptable levels for completing graduate-level work. These courses may be waived on the basis of prior courses, work experience, or by examination.

<u>IST 501</u> Information and Computer Technology Concepts (2-0-2)

IST 502 Information Technology (1-0-1)

GAD 501 Business English (4-0-4)

GAD 502 Intermediate Business English (3-0-3)

OMS 500 Mathematical Models for Business (2-0-2)

OMS 503 Statistical Methods for Business Decisions (3-0-3)

# Level II: Accounting and Basic Business Knowledge

(32 credits)

Courses in Level II are designed to provide knowledge of the basic business disciplines to prepare students for the upper-level graduate courses. These courses are waivable on the basis of recent undergraduate business course work.

ACT 501 Financial Accounting (3-0-3)

ECN 503 Economic Concepts (3-0-3)

FIN 501 Financial Management (3-0-3)

GAD 515 Communications for Managers (3-0-3)

MBA 500 Environment of Business (3-0-3)

MLR 501 Management and Organizational Behavior (3-0-3)

MKT 501 Marketing Theory and Practice (3-0-3)

OMS 511 Operations Management (3-0-3)

ACT 600 Managerial Accounting (2-0-2)

ACT 611 Financial Accounting: Resources (3-0-3)

ACT 612 Financial Accounting: Equities (3-0-3)

#### Level III Courses (Professional Preparation

(33 credits)

Level III course work is designed to prepare the student for successful entry into the profession. Students may choose between two programs<br/>
«Financial Accounting/Audit and Tax

## Financial Accounting/Audit Program Requirements

#### 1. Accounting

(18 credit hours)

ACT 621 Federal Income Taxation (3-0-3)\*

or

ACT 636 Federal Income Taxation of Corporations and Shareholders

(3-0-3)

ACT 622 Attest Function (3-0-3)\*

ACT 631 Selected Topics in Accounting (3-0-3)\*

ACT 639 Accounting Policy (3-0-3)

Two ACT electives (six credits)

#### 2. Information Systems

(15 credit hours)

ACT 553 Information Systems Auditing (3-0-3)\*

ACT 688 Accounting Systems (3-0-3)\*

Two IST/CIS electives (six credits)

Non-accounting business elective (three credits)

#### **Tax Program Requirements**

#### 1. Taxation

(12 credit hours)

ACT 621 Federal Income Taxation (3-0-3)\*\*

ACT 636 Federal Income Taxation of Corporations and Shareholders

(3-0-3)

ACT 637 Taxation of Partnerships (3-0-3)

ACT 638 Tax Research and Planning (3-0-3)

#### 2. Taxation, Accounting, and Business Electives

(21 credit hours)

Three ACT electives (Tax) (nine credits)

ACT elective (Accounting or Tax) (three credits)

Three accounting or business electives (nine credits)

\*With successful completion of an equivalent course, this course will be waived and an additional ACT or IST course at the same level will be required.

\*\*With successful completion of an equivalent course, this course will be waived and an additional tax course at the same level will be required.

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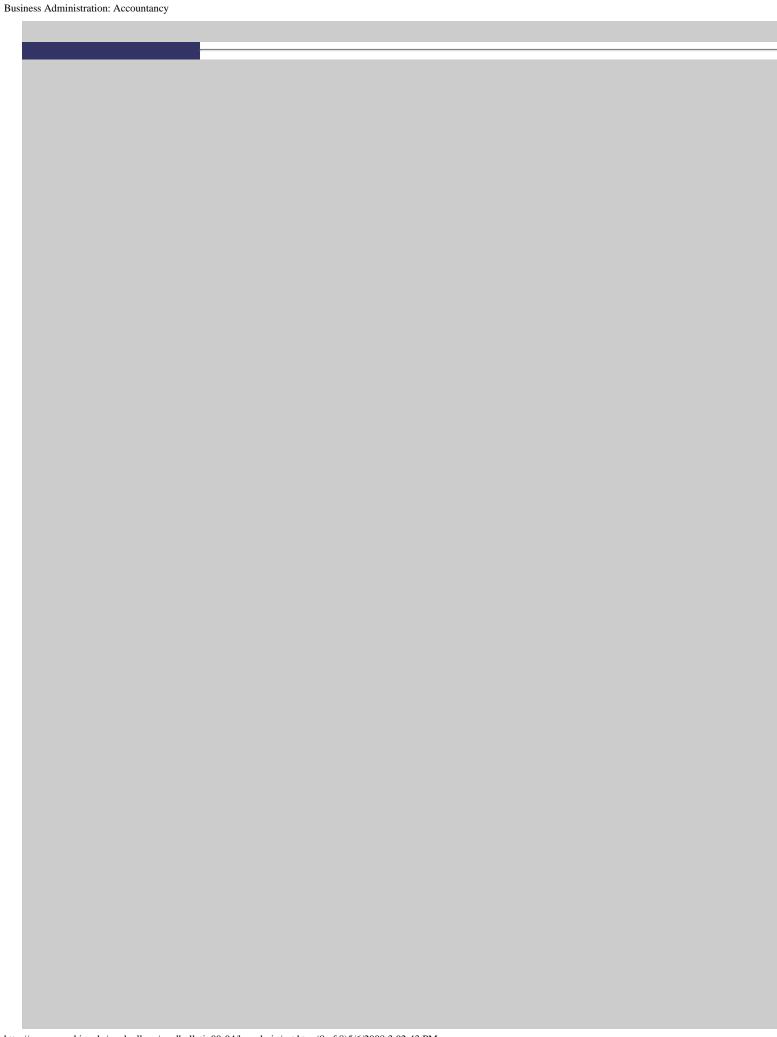
#### **DEGREE CANDIDACY**

A student becomes a candidate for the Master of Accountancy degree upon:

- 1. Completion of the preparatory program.
- 2. Approval of a program of study.

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**Assistant Professors:** 

#### Master of Computer and Information Science

# **Department of Computer and Information Science**

Ahuja Hall 344 (216) 687-4760 www.cba.csuohio.edu/mba/MCIS.htm

#### THE FACULTY

**Professors:** 

James N. Hanson,	Timothy Arndt	Theodore Randles
Emeritus	Alan C. Benander	Nilmini Wickramasinghe
Thomas S. Heines,	Barbara A. Benander	
Emeritus	Ben A. Blake	
Paul J. Jalics	Adam M.A. Fadlalla	
Toshinori Munakata	Donald G. Golden,	
James D. Schoeffler,	Chair	
Emeritus	Chien-Hua (Mike) Lin	
Allan D. Waren,	Victor M. Matos	
Emeritus	David R. McIntyre	
	Santosh K. Misra	
	Howard Paul	
	Michael A. Pechura	
	Janche Sang	

**Associate Professors:** 

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#### INTRODUCTION

The Master of Computer and Information Science (M.C.I.S.) program at Cleveland State University is a professional degree program specifically designed to combine a thorough education in computer and information science with applications in the areas of business, engineering, mathematics, and other relevant fields. It qualifies the graduate for a variety of positions generated by the constantly increasing demand for upper echelon computer professionals in industry, science, and government. These range from application programmer to systems analyst, systems programmer, and systems operation manager.

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#### FACULTY RESEARCH AND PUBLICATIONS

Because of the broad range of research interests of the faculty, there are numerous opportunities for students to participate in special projects or research in all areas of computer and information science. The optional master's thesis allows a student to conduct a more formal research project. Faculty publications over the past few years have been in the areas of database analysis and design, numerical analysis, optimization, performance measurement and evaluation, operating system design, data communications and network design, artificial intelligence, simulation, object-oriented systems analysis and design, object-oriented programming, and decision-support systems evaluation and selection.

Two major computer facilities are used by the department to support research: a networked laboratory of basic and advanced personal computers; and clusters of UNIX workstations including HP Itanium, Sun Sparc/Ultra, SGI Indy/O2, IBM RS/6000, and Dell Linux workstations. These machines are connected to Fast Ethernet, ATM, and/or FDDI LANs. All laboratories are available to students for both course work and research. The networks are connected to the University fiber backbone that in turn is linked to national networks.

The basic personal computer laboratory provides a variety of word processing, spreadsheet, database, and programming language software and is primarily used in the introductory courses.

The advanced personal computer laboratory provides advanced program preparation software, specialized compilers, and other application software pertinent to advanced computer and information science courses, including C, C ++, Java, Rational Rose, artificial intelligence compilers, and database software. This laboratory also may be accessed by students using dial-up connections.

The workstation laboratory provides a networked Unix environment that is used in courses such as those dealing with advanced operating systems and computer networks.

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#### **CAREER INFORMATION**

Students in the M.C.I.S. program have a wide range of options, allowing them to focus their studies on topics such as information systems, systems programming, database development, networks, web development, etc. As a result, a graduate's career options will vary somewhat depending on the chosen areas of study. For example, a student who specializes in information systems would be prepared for a career in the application of computers in business or the nonprofit sector, and typical starting positions would include programmer, systems analyst, and database designer. A student who specializes in systems programming, however, would be prepared for a career in technical support functions and their management. Typical starting positions in this field include systems programmer, technical support engineer, and operations manager. A student who focuses on Internet-related topics could start as a web designer, HTML or Java programmer, or network designer or manager.

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#### FINANCIAL ASSISTANCE

The College of Business Administration has a limited number of graduate assistantships available each year. A student may apply for an assistantship by completing an application form from the Graduate Business Programs Office. Copies of the completed applications are circulated to department chairs, program directors, and other appropriate parties within the College. Interviews with prospective graduate assistants are arranged directly by department chairs and others who hire and supervise graduate assistants. Assistantships are not awarded in the CIS Department until a student has been in a graduate program for at least one semester.

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#### **ADMISSION REQUIREMENTS**

The applicant must meet Graduate College requirements for admission as

specified in this Catalog. In addition, the student must have:

- 1. A cumulative grade-point average of 2.75 or better;
- 2. Completed either the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT). Students scoring below the 20th percentile on the verbal section of the GMAT are required to take the following remedial courses in business communication: GAD 502 (16th through 19th percentile); GAD 501 and GAD 502 (below 16th percentile);
- 3. A weighted score of 1,000, computed as the test score, plus 200 times the grade-point average; if an applicant takes the GRE, the test score is computed as the average of the individual scores of the general examination;
- 4. An official transcript from each college and university previously attended.

Full-time students applying for the M.C.I.S. program normally are not admitted in the spring semester. They are admitted only for the summer or fall, depending on their prerequisite requirements. Complete application packages, including a completed application form, transcripts for all college-level work, appropriate test scores (GMAT or GRE), and TOEFL scores, must be received by March 1.

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#### **NON-DEGREE STUDENTS**

Non-degree students are allowed to take a maximum of 12 credit hours from the courses listed below. These preparatory courses provide students with a basic background in CIS. These courses do not count toward the requirements for the M.C.I.S. degree and generally are waived for students with an undergraduate degree in CIS or a closely related field.

CIS 500 Introduction to Programming

CIS 505 Analytical Methods in Computer Science

CIS 506 Data Structures and Algorithms

CIS 507 Files and Large Systems

CIS 535 Language Processors

CIS 545 Architecture and Operating Systems

To register for more than 12 graduate credit hours, students are required to meet regular admission standards for the M.C.I.S. program. Students who have

not been admitted to a graduate degree program may not take 600-level CIS or IST courses.

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#### **DEGREE REQUIREMENTS**

The M.C.I.S. program consists of 30 semester hours. In addition, there is a preparatory program designed for students with an insufficient background in CIS, to provide them with a common background in computer science and mathematics.

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#### THE PREPARATORY PROGRAM

In order to prepare students for graduate courses in computer and information science, the program provides a basic background in three areas: analytical methods, programming languages and data structures, and systems programming. The courses taken in the preparatory sequence are computed in the student's grade-point average, but the credit hours do not count toward the requirements for the Master of Computer and Information Science degree. Students should call the CIS Department at (216) 687-4760 to set up an appointment with an M.C.I.S. advisor prior to registering for classes.

#### **Analytical Methods**

OMS 500 Mathematical Models for Business

OMS 503 Statistical Methods for Business Decisions (Prerequisite: OMS 500)

CIS 505 Analytical Methods in Computer Science (Prerequisite: OMS 500)

#### **Programming Languages and Data Structures**

CIS 500 Introduction to Programming

<u>CIS 506</u> Data Structures and Algorithms (Prerequisites: <u>CIS 500</u> and <u>OMS</u>

500)

CIS 507 Files and Large Systems (Prerequisite: CIS 500; Corequisite: OMS

503)

#### **Systems Programming**

CIS 535 Language Processors (Prerequisite: CIS 506)

CIS 545 Architecture and Operating Systems (Prerequisite: CIS 506)

Part or all of the preparatory program may be waived by the Department of Computer and Information Science, based on the student's prior preparation.

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#### THE GRADUATE PROGRAM

The graduate program consists of 30 semester hours of approved courses. Prior to satisfactory completion of the entire preparatory program, no course may be taken toward the fulfillment of the graduate degree program without prior written permission of the student's advisor.

The 30 semester-hour program:

1. Must include a 12-credit core consisting of:

CIS 600 Computer Architecture

CIS 610 Database Systems and Processing

CIS 620 Comparative Operating Systems Interfaces

If a course in the core program is waived based on prior preparation, an advanced course in the same area must be taken in its place.

- 2. Must include one course in analytical methods beyond the preparatory level. This requirement may be satisfied by <u>CIS 570</u>, <u>CIS 606</u>, <u>CIS 611</u>, CIS 662, or CIS 666.
- 3. Must include at least 18 semester hours of electives beyond the preparatory sequence.
- 4. May include up to six hours of credit transferred from another university if such credit is beyond the level of the preparatory program and has the approval of the CIS department.
- 5. May include up to nine credit hours of computer-related Cleveland State graduate courses outside of the CIS department with prior written approval of the student's advisor, if the student has an undergraduate degree in computer and information science. Students without an undergraduate degree in computer and information science must take all courses in the CIS Department in order to gain adequate professional depth.

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business administration:

# labor relations and human resources





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#### Master of Labor Relations and Human Resources

# **Department of Management and Labor Relations**

Ahuja Hall 433 (216) 687-4754 www.csuohio.edu/mlr

#### THE FACULTY

Professors: Assistant Professors:

Tim R.V. Davis

Nels E. Nelson Deborah E. Knapp

Bryan J. Pesta Raji G. Srinivasan

Associate

**Professors:** 

**Instructors:** 

Kenneth J. Dunegan

Mary Wilson Hrivnak Augustine A. Lado

Harry J. Martin

George Buckingham Sung Min Kim

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#### PROGRAM OBJECTIVES

The principal objective of the Master of Labor Relations and Human Resources (M.L.R.H.R.) degree is to help graduates begin careers, or advance their careers, in human resources and labor relations. Specific objectives of the program include:

- To provide education in the fundamental principles of human resources and labor relations.
- To provide a better understanding of human resource data and its use in such areas as testing, program evaluation, selection, and survey research.
- To provide an awareness of the political and legal environments in which human resource and labor relations systems function.
- To provide an interdisciplinary perspective on the field.

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#### **ADMISSIONS CRITERIA**

Students with a wide variety of backgrounds are encouraged to enroll in the program. Examples of undergraduate majors who may be interested in this course of study include:

- Economics
- Political Science
- History
- Journalism
- Sociology
- Psychology
- Urban Studies
- Business Administration

In addition to Graduate College standards for admission, applicants for the M.L. R.H.R. program must meet the following requirements:

- 1. A total of at least 950 points based on the formula: 200 times the cumulative undergraduate grade-point average plus the Graduate Management Admission Test (GMAT) score or the average score of the three components of the Graduate Record Examination (GRE). All applicants for admission are required to take either the GMAT or GRE exam and submit results before being considered for admission.
- 2. Students scoring below the 25th percentile on the quantitative section of the GMAT/GRE are required to take OMS 500; those scoring below the

20th percentile on the verbal section of the GMAT/GRE are required to take the following remedial courses in business communication: GAD 502 (16th through 19th percentile); GAD 501 and GAD 502 (below 16th percentile).

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#### **APPLICATION PROCEDURE**

Applicants must submit to the Office of Graduate Admissions:

- 1. GMAT or GRE results submitted to the University by the testing agency, and
- 2. An official transcript from each college and university attended.

Test registration forms may be obtained from Educational Testing Service, Box 966, Princeton, New Jersey 08540, or from the Testing Center, Cleveland State University, Cleveland, Ohio 44115.

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#### PROGRAM DESIGN

The M.L.R.H.R. program consists of a minimum of 34 semester hours beyond the baccalaureate degree. The program is designed to accommodate students who are currently working. While a majority of enrollees are part-time students taking courses in the evening, the program also enrolls many full-time students. Full-time students normally take three semesters to complete the degree.

The program is divided into three components:

- 1. Prerequisite Courses
- 2. Required Core Courses (25 credit hours)
- 3. Elective Courses (nine credit hours)

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#### PREREQUISITE COURSES

Prerequisite Courses Students must have demonstrated proficiency in statistics, business applications of computer technology, economics, and organizational

behavior. This proficiency must be demonstrated through prior course work. Students lacking relevant prior course work are required to take one or more of the following courses:

ECN 503 Economic Concepts (three credit hours)

<u>IST 501</u> Information and Computer Technology Concepts (two credit hours)

<u>IST 502</u> Information Technology (one credit hour)

MLR 501 Management and Organizational Behavior (three credit hours)

OMS 503 Statistical Methods for Business Decisions (three credit hours)

A student may be admitted without such course work but must remove the deficiency within the student's first two semesters. Students who do not remove the deficiency are not permitted to enroll for further course work.

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#### **REQUIRED CORE COURSES**

(25 credit hours)

The following are required for all M.L.R.H.R. students:

MLR 522 Labor Law

MLR 531 Employment Practices Law

MLR 601 Human Resources Management and Labor Relations

MLR 602 Advanced Wage and Employment Theory

MLR 640 Performance Appraisal and Compensation Systems

MLR 641 Employment Planning, Personnel Selection, and Training

MLR 645 Information Systems in Human Resource Management

MLR 651 Collective Bargaining

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#### **ELECTIVE COURSES**

(nine credit hours)

Students select an additional nine credit hours to complete the requirements of the degree. Elective course selections must be made with the consent of the student's program advisor. **Only one elective course may be at the 500-level**.

Electives offered within the Department of Management and Labor Relations include the following:

MLR 504	Organizational	Theory ar	d Design
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- MLR 511 Labor History
- MLR 521 Comparative Labor Systems
- MLR 523 Labor Relations in Public Employment
- MLR 555 Trends in Employee Relations and the Quality of Working Life
- MLR 577 Managerial Skill Development
- MLR 604 Interpersonal Relations and Group Dynamics
- MLR 605 Organizational Development
- MLR 607 Total Quality Management/Continuous Quality Improvement
- MLR 688 Internship
- MLR 698 Research Project

#### Electives offered **outside of the department** include such courses as:

- PSY 518 Personnel Psychology
- PSY 522 Organizational Psychology
- PSY 523 Assessment Techniques
- PSY 538 Intellectual Assessment and Practicum
- SOC 588 Sociology of Work and Organization
- PAD 630 Public Human Resources Management
- EDE 623 Group Process and Practice
- ADM 642 Collective Bargaining and Contract Management
- ALD 645 Organizational Behavior and Change
- LAW 629 Labor Law
- LAW 633 Arbitration
- LAW 696 Alternative Dispute Resolution

Other elective courses may be selected with the consent of the student's program advisor.

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#### **INTERNSHIPS**

Internships may be available for students to provide an opportunity to gain practical experience in human resources or labor relations.

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#### **NON-DEGREE STATUS**

Non-Degree students are limited to 500-level MLR courses. A maximum of 12 credits may be taken as a Non-Degree graduate student. No courses may be taken beyond this limit. Admission requirements for Non-Degree students are the same as stated above, including GRE/GMAT requirements.

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#### ACADEMIC STANDARDS

The M.L.R.H.R. student must maintain an average of "B" or better in all course work attempted. Receipt of a grade of less than "B" in three courses and failure to maintain a "B" average, or the receipt of a grade of "F" in two courses, will result in dismissal from the program.

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#### FOR MORE INFORMATION

**Ahuja Hall 433** (216) 687-4754

www.csuohio.edu/mlr

Please contact the Department of Management and Labor Relations for more information by phone, (216) 687-4754; fax, (216) 687-9354; or visit the department web site at www.csuohio.edu/mlr.

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sciences

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CERTIFICATE AREAS

ADDENDA

# business administration:

# public health





PROGRAM DESCRIPTION
ADMISSION REQUIREMENTS

DEGREE REQUIREMENTS
CORE COURSES

#### Master of Public Health

#### **Department of Management and Labor Relations**

Ahuja Hall 433

(216) 523-7232 or (216) 687-4711

E-mail: hcaprograms@csuohio.edu or pubhlth@neoucom.edu www.neoucom.edu/MPH/index.html

#### **CSU Program Director:**

Brenda Stevenson Marshall, Director, Health Care Administration

#### PROGRAM DESCRIPTION

The Master of Public Health (M.P.H.) at Cleveland State University is part of the Northeast Ohio Universities Master of Public Health program. The NEOUMPH is a multidisciplinary, interdepartmental, and interinstitutional program that provides opportunities for graduate studies in public health. Although the M.P.H. degree is awarded by Cleveland State University, the M.P. H. Program is partnership-based. The five partners are Cleveland State University, the Northeastern Ohio Universities College of Medicine (NEOUCOM), Youngstown State University, Kent State University, and the University of Akron.

The mission of the Northeastern Ohio Universities Master of Public Health program is to improve public health through the preparation of students for public health practice in the region by collaboration among the participating academic institutions, graduate students, public health practitioners, and the community. Graduates are prepared for significant public health roles in practice, community-based research, and community service. Unique features of the program include the use of distance learning and Saturday course offerings to accommodate students' work schedules.

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#### **ADMISSION REQUIREMENTS**

In addition to meeting Cleveland State University Graduate College admission requirements, an applicant must hold a bachelor's degree from an accredited college or university, with a minimum grade-point average of 2.75. Applicants must have successfully completed a college-level mathematics or statistics course, and a college social science or natural science course, and have acceptable GRE scores within the last five years. GRE scores may be waived if the applicant has a professional degree (master's or doctorate) in a related area. The TOEFL is required of applicants from countries where English is not the language of instruction in their college/university studies; the minimum score is 550. Two years of work experience in a relevant field is highly recommended. The applicant must provide three letters of recommendation from individuals familiar with his or her academic or professional background. If the bachelor's degree was earned more than two years prior to application to the program, an applicant may submit letters of recommendation by supervisors from his or her place of employment. The letters should include an assessment of the applicant's work quality and ability to successfully complete a graduate degree.

The application deadline is March 1. Students are admitted fall semester only. Applicants must submit the special Northeastern Ohio Universities Master of Public Health application form, a \$35 non-refundable application fee, and all admission materials to the M.P.H. Admissions Committee (address below). The M.P.H. Admissions Committee reviews application materials and forwards files to the Cleveland State M.P.H. Program Director. The Director submits files and admission recommendations to the Cleveland State Graduate Admissions Office. The special application form is available at www. neoucom.edu/MPH. Applicants are encouraged to review the admission requirements on the M.P.H. web site prior to submitting their application materials. Submit application materials to:

M.P.H. Admissions Committee NEOUCOM, Division of Community Health Sciences 4509 State Route 44 PO Box 95 Rootstown, OH 44272.

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#### **DEGREE REQUIREMENTS**

The curriculum consists of six core courses that students take as a cohort. In

addition, one grant project, a capstone project, a portfolio, and an exit presentation are required. The M.P.H. is structured as a weekend program with the core courses scheduled on Saturdays from 9:00 a.m. to noon and from 1:00-4:00 p.m. Alternate scheduling will be considered to accommodate students with special circumstances.

Students may take the core courses at any one of the distance learning classrooms at any one of the partner universities. Electives may be taken at any time during the program. Students may select electives from a list of approved courses offered by the partner universities. If the student is interested in an elective that is not on the approved list, an Elective Approval Form must be submitted along with a course syllabus for review by the NEOUMPH curriculum committee.

Students are assigned an advisor upon entering the program. The advisor offers guidance on choosing electives appropriate to the student's career goals and interests. Students must maintain a minimum grade-point average of 3.00 to remain in the program.

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#### **CORE COURSES**

(24 credits)

MPH 601	Public Health Concepts (three credits)
MPH 602	Social and Behavioral Sciences in Public Health (three credits)
MPH 603	Epidemiology in Public Health (three credits)
MPH 604	Biostatistics in Public Health (three credits)
MPH 605	Health Services Administration in Public Health (three credits)
MPH 606	Environmental Health Sciences in Public Health (three credits)
MPH 696	Public Health Practicum (three to six credits)
MPH 697	Public Health Capstone Project (three to six credits)

#### **Electives**

(15 to 18 credits)

# Total requirements for the degree

39 credits

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business administration:

# courses





**ACCOUNTING** 

**COMPUTER & INFO SCIENCE** 

**DOCTORAL COURSES** 

**ECONOMICS** 

**FINANCE** 

**GENERAL ADMIN** 

HEALTH CARE ADMIN

**INFORMATION SYSTEMS** 

MBA COURSES

**MGMT & LABOR RELATIONS** 

**MARKETING** 

**OPERATIONS MGMT & BUS** 

STATS

**PUBLIC HEALTH** 

#### Courses

Students enrolled in the 700-level of courses cross-listed with 600-level courses are required to do additional work.

#### **ACCOUNTING**

**ACT 501 Financial Accounting (3-0-3).** Basic accounting theory and practice. Thorough coverage of accounting measurement of income and financial position, including the analysis of business events and their effect on the financial position and income of a business. Closed to students who have completed the equivalent of ACT 221 or ACT 222. (Not available for elective credit.)

ACT 553 Information Systems Auditing (3-0-3). *Prerequisites:* ACT 622 and ACT 688, or equivalents. Problems of accuracy and control in computer-oriented applications. Changing audit techniques, especially loss of traditional audit trial opportunities; control problems affected by batch systems and by direct access and real-time systems.

**ACT 555** Internal Auditing (3-0-3). *Prerequisite:* ACT 501. Use of theory and practical application of internal control and internal auditing for management purposes.

**ACT 560** International Accounting (3-0-3). *Prerequisite:* ACT 612. Coverage of the international dimensions of accounting, including topics in financial and managerial accounting, auditing, taxation, and transfer pricing issues. Discussion of comparative accounting systems and the process of harmonizing accounting standards.

**ACT 562** Tax II (3-0-3). *Prerequisite:* ACT 621 or an undergraduate course in tax. Taxation of the income of various business entities and estates and trusts; federal estate and gift taxes; state and local taxes; methodology of researching intricate tax problems.

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#### ACT 584 Governmental and Institutional Accounting (3-0-

**3).** *Prerequisite:* Introductory courses in accounting or ACT 501. Accounting principles, standards, and procedures applicable to enterprises operated not-for-profit, e.g., governmental units, institutions such as universities and hospitals, charitable organizations, fraternal organizations, religious groups, clubs, etc.

**ACT 600 Managerial Accounting (2-0-2).** *Prerequisite:* ACT 501. Development of analytical skills using management accounting problems. Emphasis on the basics of managerial accounting; using managerial accounting for planning, controlling, and decision-making purposes; and the behavioral implications of using managerial accounting methods in decision making. For M.B.A. students.

**ACT 611 Financial Accounting: Resources (3-0-3).** *Prerequisite:* ACT 501. Use of comprehensive analysis of financial accounting theory with emphasis on the complexities of accounting for financial resources. Where appropriate, the relationship with related liabilities and equities is investigated. Analysis is performed within the framework of the standards established by the Financial Accounting Standards Board. Closed to students who have completed ACT 331 and ACT 332.

ACT 612 Financial Accounting: Equities (3-0-3). *Prerequisite:* ACT 501 and ACT 611. Comprehensive analysis of financial accounting theory with emphasis on the complexities of accounting for liabilities and equity. Where appropriate, the relationship with related financial resources is investigated. Analysis is performed within the framework of the standards established by the Financial Accounting Standards Board. Closed to students who have completed ACT 331 and ACT 332.

**ACT 613** Legal and Ethical Environment of Accountancy (3-0-3). The relationship of accountancy to its legal environment; accountants' legal liability, contracts, commercial paper, sales, bailments, bankruptcies, corporations, partnerships, and regulatory law.

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**ACT 621 Federal Income Taxation (3-0-3).** *Prerequisite:* ACT 501. A comprehensive consideration of the basic process for determining the federal income tax obligation of individuals and corporations. Closed to students who have completed ACT 361 and ACT 462, except by departmental permission.

**ACT 622 Attest Function (3-0-3).** *Prerequisite:* ACT 600, ACT 611, ACT 612, and ACT 688. Theory of the auditing function and its relationship to professional standards, ethics, internal control systems, nature of evidence, field work, methodology, and types of opinions. Closed to students who have completed ACT 451. (With the successful completion of an equivalent course, this course will be waived and an additional accounting course at the 600-level will be required.)

ACT 631 Selected Topics in Accounting (3-0-3). *Prerequisite:* ACT 611 and ACT 612. Coverage of advanced topics in financial accounting. Covers consolidated statements, foreign currency transactions, SEC disclosure rules, interim reporting, segment reporting, inflation accounting, and not-for-profit accounting. Closed to students who have completed ACT 332 and ACT 441. (With the successful completion of an equivalent course, this course will be waived and an additional accounting course at the 600-level will be required.)

ACT 632 Auditing Standards and Techniques (3-0-3). *Prerequisite:* ACT 622 or equivalent. Critical analysis of techniques used in auditing; interrelation of audit standards, procedures, principles, and techniques; trends and developments in the profession of public accounting; report forms; contents, certificates, and comments; auditors' rights and responsibilities; published corporation reports; requirements of the American Institute of Certified Public Accountants, the Securities and Exchange Commission, and other regulatory agencies; and case studies.

**ACT 633** Cost Accounting Theory and Analysis (3-0-3). *Prerequisite:* ACT 600 or equivalent. Critical examination of cost accounting methods with emphasis on truth and expediency. Literature in the field of cost accounting.

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**ACT 634** Accounting Concepts and Principles (3-0-3). *Prerequisite:* ACT 611, ACT 612, and ACT 631. An advanced survey of accounting concepts and principles designed to develop an understanding of recurring issues in accounting theory and their development in a global context.

**ACT 636 Federal Income Taxation of Corporations and Shareholders (3-0-3).** *Prerequisite:* ACT 621 or equivalent. A comprehensive analysis of the federal income tax problems of corporations and shareholders, including S corporations.

**ACT 637 Taxation of Partnerships (3-0-3).** *Prerequisite:* ACT 621 or equivalent. A comprehensive analysis of the federal income tax problems of partnerships.

**ACT 638 Tax Research and Planning (3-0-3).** *Prerequisites:* Two undergraduate courses in taxation or ACT 621. A thorough review of the tax

research and planning process; discussion of current developments in federal, state, and local taxation. Tax research project required.

**ACT 639** Accounting Policy (3-0-3). *Prerequisite:* Advanced standing in master's program. Integration of knowledge developed in the program; costanalysis, accounting, and attest principles; and information systems with the objective of formulating policy through rational use of these principles.

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**ACT 641** Estate and Gift Taxation (3-0-3). *Prerequisite:* ACT 621. A study of federal estate and gift laws involved in the planning of inter vivos and testamentary transfers of property.

**ACT 642 Deferred Compensation (3-0-3).** *Prerequisite:* ACT 621. A study of income tax laws relating to qualified and non-qualified pension and profit-sharing plans, deferred compensation plans, and tax consequences to employers, employees, self-employed individuals, and fiduciaries.

**ACT 643** Corporate Taxation II (3-0-3). *Prerequisite:* ACT 636. Examination of the income tax laws relating to corporate reorganizations and filing consolidated returns by affiliated corporations, the tax consequences to parties involved, and relevant judicial doctrines.

**ACT 644 Estate Planning (3-0-3).** *Prerequisite:* ACT 641. A study of estate tax and federal income taxation of estates and trusts, with emphasis on planning the estate for disposition of property, tax minimization, liquidity requirements, and administrative costs.

#### ACT 645 Taxation of International Transactions (3-0-

**3).** *Prerequisite:* ACT 621. A detailed study of more advanced areas of taxation and tax planning for individuals, including investment, insurance, and retirement planning.

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**ACT 648** State and Local Taxation (3-0-3). *Prerequisite:* ACT 621. Examines common state and local taxation of individuals and businesses, including taxation of multistate businesses.

**ACT 649** Tax Accounting (3-0-3). *Prerequisite:* ACT 621. Attention to the timing of recognition of income, tax depreciation, installment reporting, imputed interest, and tax credits.

**ACT 653** Advanced Information Systems Auditing (3-0-3). This course provides the opportunity for the student to gain an awareness of computer-assisted auditing techniques (CAAT), an understanding of specific CAAT

software, and an appreciation for future CAAT development. In addition, the student is exposed to a series of topics of current professional interest.

ACT 688 Accounting Systems (3-0-3). Prerequisite: ACT 611, ACT 612, and IST 502. Business systems as viewed by the profession of accounting; system analysis, flow charting, and system design applied to a range of firms, from those with a minimum of electronic and mechanical devices to firms with the most sophisticated types of electronic data processing equipment; emphasis on business system design to accumulate and communicate information to officials controlling the activities of the enterprise. (With the successful completion of an equivalent course, this course will be waived and an additional accounting course will be required.)

# ACT 690 Professional Accounting Internship (one to three credits).

*Prerequisite:* Permission to register must be obtained from the Accounting Chairperson early in the semester prior to enrollment in the course. Requires professional accounting work experience in an organizational environment that extends the curriculum and provides meaningful experience related to the student's area of interest. Term report required.

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# ACT 696 Current Problems in Accounting (one to three credits).

*Prerequisite:* ACT 600, ACT 611, or ACT 612. Selected problems in the field of accounting. With permission of instructor, may be repeated if topics vary.

**ACT 698 Research Seminar in Accounting (3-0-3).** *Prerequisites:* Two elective courses in accounting, at least one of which must be at the 600 level. Study of significant problems in some phase of administration with topic selected from candidate's area of interest. A written report, suitable for publication in a professional journal, is required. (Application for permission to register for ACT 698 must be submitted to the Accounting Chairperson early in the semester prior to enrollment in the course.)

**ACT 899 Dissertation (variable credit).** *Prerequisite:* Successful completion of comprehensive examinations.

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# COMPUTER AND INFORMATION SCIENCE (also see <u>Information</u> Systems)

The CIS course titles preceded by an asterisk (\*) are intended for non-majors or for satisfaction of the preparatory program requirements and are not available for credit toward the Master of Computer and Information Science

degree.

\*CIS 500 Introduction to Programming (4-0-4). Introduction to the principles of computation, problem-solving methods, and algorithm development using a popular programming language. Development of good programming style and basic skills of designing, coding, debugging, and documenting programs. Use of libraries and conditional compilation. Topics include functions, arrays, strings, structures, recursion, file I/O, pointers, and introduction to linked lists.

\*CIS 505 Analytical Methods in Computer Science (4-0-4). *Prerequisite:* OMS 500. Methods and concepts necessary for use in computer programming, data structures, relational databases, algorithm analysis, and other areas of computer science. Topics include sets, combinatorics, logic, induction, relations, functions, graphs and trees, recurrence equations, and introduction to proof of program correctness.

\*CIS 506 Data Structures and Algorithms (4-0-4). *Prerequisites:* CIS 500 and OMS 500. Continuation of CIS 500. Emphasis on data structures and their use. Topics include stacks, queues, linked lists, trees, and graphs; complexity analysis of sorting, searching, and hashing algorithms.

\*CIS 507 Files and Large Systems (4-0-4). *Prerequisite:* CIS 500; *Corequisite:* OMS 503. Files and their access methods. The structure and use of files, including sequential, indexed, B+-Tree, etc. Characteristics of physical storage devices such as tape and disk. Comparison of mainframe and PC file systems.

\*CIS 535 Language Processors (4-0-4). *Prerequisite:* CIS 506. Foundations of PC architecture and assembly language. Topics include machine language, hardware fundamentals, registers, numbering systems, data definition, and addressing modes. Fundamentals of systems programming, including the implementation and use of assemblers, macro processors, linkers, loaders, and compilers. Examples of language processors are studied on various computers.

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CIS 543 Graphical User Interfaces (3-0-3). *Prerequisites:* CIS 545 and CIS 559. Graphical-user interfaces for advanced bit-mapped display systems characterized by close interaction with pointing devices. Consideration of both the underlying application programming interfaces as well as the use of a framework of C++ classes. Use of an interactive environment for design and debugging. A specific industry standard system is explored in detail with extensive programming involvement.

\*CIS 545 Architecture and Operating Systems (4-0-4). *Prerequisite:* CIS 506. PC architecture, including interrupts, I/O handling, and memory

management. Management of computer resources by an operating system, including hardware, processes, main memory, file systems, input/output, synchronization, and deadlocks. Along with the concepts, an in-depth study of a real operating system is presented and its interfaces examined at the command level as well as the system call level. Topics unique to distributed operating systems are examined, including communication, synchronization, and distributed file systems.

CIS 552 COBOL Programming (4-0-4). *Prerequisite:* CIS 507. The study of COBOL and its use for data processing. Emphasis on structured programming and program design. Topics include multi-dimensional arrays, SORT, SEARCH, subprograms, random access file processing, character processing, and internal data representation.

CIS 554 Data Communications and Networking (4-0-4). *Prerequisite:* CIS 545. Data communications: characteristics of physical transmission media, including international standards for data encoding and device interfacing; transmission principles, modems and multiplexors, data link protocols, mechanisms for error detection/correction, and flow control. Computer Networks: broad survey of existing networks; network topology; network layers from the ISO OSI reference model; network programming; analytical tools for network analysis and design.

CIS 559 Object-Oriented Programming in C++ (3-0-3). *Prerequisite:* CIS 506. The methodology of object-oriented design and programming using the C+ + language. Previous knowledge of C is required. The C++ language includes built-in data types, pointers, classes, operator overloading, code reusability via simple and multiple inheritance, polymorphism, stream I/O, and the use of class libraries.

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CIS 569 Java Programming (4-0-4). *Prerequisite:* CIS 559. An in-dept look at the Java programming language. Classes and objects in Java, Java applets and applications, graphics, basic and advanced GUI components of Java, exception handling and multi-threading in Java, files and streams. Use of Java on the Internet, networking, and JavaBeans. Event driven programming in Java.

CIS 570 Linear Programming (3-0-3). *Prerequisite:* CIS 506. Theory and application of linear programming; formulation of models, including blending, transportation, and warehousing; applications to information technology and artificial intelligence; elimination methods, proof of the simplex algorithm, and the duality theorem; revised simplex method and use of multipliers; dual-simplex and primal-dual algorithms; postoptimal procedures and bounded variables.

CIS 600 Computer Architecture (4-0-4). *Prerequisite:* CIS 545. Logic circuit design concepts, including various CPU implementation methods.

Architectural features of minicomputers and microcomputers, including processor organization and control, storage addressing, and input/output structures; emphasis on impact on application and system software; detailed study of popular minicomputers and microprocessors and their use of architectural features.

CIS 606 Analysis of Algorithms (3-0-3). *Prerequisites:* CIS 505 and CIS 506. Algorithms and their time/space complexities; models of computation; design of efficient algorithms: recursion, divide-and-conquer, dynamic program-ming; algorithms for sorting, searching, and graph analysis. Algorithms for parallel computing.

CIS 610 Database Systems and Processing (4-0-4). *Prerequisite:* CIS 506. Database systems; their application, advantages, and disadvantages; layered architecture and its physical/logical organization. Relational databases, foundations, and appli-ca-tions. Detailed study of query languages, including relational algebra, Structured Query Language (SQL), and Query-By-Example (QBE). Other non-relational systems, including the network and hierarchical database models, their data definition, and manipulation sub-languages. Data abstraction, ER models, and normalization theory.

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CIS 611 Relational Database Systems (3-0-3). *Prerequisites:* CIS 505 and CIS 610. Detailed study of the relational model of data, including its query languages: relational algebra and relational calculus. Expressive power of query languages. Design of relational databases, functional and multivalued dependencies, normalization theory, elimination of update anomalies, lossless joins, and dependency preserving decompositions. Exposure to practical aspects of relational design and query evaluation.

CIS 612 Advanced Topics in Database Systems (3-0-3). *Prerequisites:* CIS 505 and CIS 610. Discussion of data models, including relational, functional, ER, enhanced ER, object-oriented, and networks. Query processing and optimization. Transaction handling, recovery, and concurrency control. Enforcing security and integrity constraints. Distributed and multimedia databases. Hands-on experience with some relational/non-relational DBMS systems.

# CIS 620 Comparative Operating Systems Interfaces (4-0-4).

*Prerequisite:* CIS 545. Processes and interprocess communication. Network interfaces and socket programming. Event-driven and Windows programming concepts, including geometry managers, events and bindings, and window managers. Command-level shell programming, program development tools, and file systems. Distributed operating system considerations.

CIS 630 Enterprise Application Development (4-0-4). *Prerequisite:* CIS 569. Issues surrounding the development of distributed applications, including

their architecture, design, and implementation; use of the Java Enterprise API's; includes servlets, JavaServer Pages (JSP), Java Database Connectivity (JDBC), RMI, CORBA, JNDI, Enterprise JavaBeans, and XML; design and development of complex, distributed web applications.

CIS 634 Structured Analysis and Design (3-0-3). *Prerequisites:* CIS 505 and CIS 507; *Co-requisite:* CIS 610. Introduction to structured systems analysis and design; use of data flow diagrams, data dictionaries, and structured English in systems analysis; use of structure charts, coupling, cohesion, transform analysis, packaging, and various heuristics in systems design.

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**CIS 635 Software Engineering Metrics, Economics, and Management (3-0-3).** *Prerequisite:* CIS 634. Importance of software quality assurance; metrics for quantitative comparisons and evaluations of software and of development processes; phases and activities of a software life-cycle; use of cost-estimation models to plan the cost, schedule, and effort required at various levels of project detail; software project planning and control techniques; use of estimates in decision making for management; computerized tools for software estimation and project management.

CIS 636 Object-Oriented Analysis and Design (3-0-3). *Prerequisites:* CIS 559 and CIS 634. Introduction to object-oriented systems development. Object modeling, use cases, class development, CRC analysis, class diagrams, interaction diagrams, and state transition diagrams. Transition from analysis to design. Design specification. Transition from design to programming.

CIS 640 Parallel Computers and Programming (3-0-3). *Prerequisite:* CIS 600. Continuation of computer architecture; microprogramming and its use; architecture of device interfaces, including CRT and floppy disk interfaces, direct-memory-access support chips; object-oriented computer architectures; special machine organizations, including stack, vector, and parallel machines. Software environments and program develop-ment techniques for parallel computers.

CIS 650 Compiler Design (3-0-3). *Prerequisites:* CIS 535 and CIS 620. Practical overview of the principles involved in the design and construction of translators. Language theory and its relation to push-down automata, parsing methods, finite state machines and lexical methods, including data representation and run-time environments. In-depth coverage of major parsing and syntax-directed translation ranging from top-down recursive-descent methods, including LL(k) and SLL(k), to bottom-up LR methods, including simple LR, canonical LR, and lookahead LR, with exposure to the yacc parser generator tool. Lexical analysis, including regular expressions, finite state machines, and the lex scanner generator tool.

# CIS 662 Performance Analysis of Computer Systems (3-0-3).

*Prerequisites:* CIS 600 and CIS 620. View of computer hardware, software, and applications from a queuing perspective; analysis of single queues and queuing networks for evaluation of system performance; operational analysis.

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# CIS 665 Artificial Intelligence Languages and Applications (3-0-

**3).** *Prerequisites:* CIS 505 and CIS 506. Investigation and application of major symbolic AI languages; functional language Lisp; logic programming using Prolog; knowledge discovery techniques including machine learning, and other symbolic AI techniques.

CIS 666 Topics in Artificial Intelligence (3-0-3). *Prerequisites:* CIS 505 and CIS 506. Study of recent AI techniques important for practical applications, including neural networks, genetic algorithms and evolutionary computing, fuzzy systems, and chaotic systems.

CIS 669 Computer Executive Programs (3-0-3). *Prerequisites:* CIS 600 and CIS 620. Further study of operating systems through detailed case studies of a multi-user operating system written in high-level language.

CIS 676 Computer Networks (3-0-3). *Prerequisites:* CIS 600, CIS 620, and CIS 654. Protocol software and conceptual layering, reliable delivery over an unreliable channel, addressing and address resolution, internetworking and routing algorithms, congestion and flow control techniques, transport protocols, name and name binding, network file systems, the client-server paradigm, analytical tools for network analysis, and performance measurement.

# CIS 693 Special Topics in Computer and Information Science (3-0-3).

*Prerequisite:* Varies depending on content. Special topics of current interest in computer and information science. Content varies each offering. May be repeated with change in topic.

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# CIS 694 Special Topics in Computer and Information Science (4-0-

**4).** *Prerequisite:* Varies depending on content. Special topics of current interest in computer and information science. Content varies each offering. May be repeated with change in topic.

CIS 696 Special Project in Computer and Information Science (variable credit). *Prerequisite:* Prior approval of written proposal. Project in any area of computer and information science. Students may register more than once for this course with departmental approval.

\*CIS 698 Research in Computer and Information Science (0-0-3).

*Prerequisite:* Prior approval of a written research proposal. Study of significant problems in some phase of administration related to the computer industry or computer applications. A written report, suitable for publication in a professional journal, is required. Available only to M.B.A. students taking a computer science concentration.

CIS 699 Master's Thesis Research in Computer and Information Science (3-0-3). *Prerequisite:* Departmental approval of written proposal. Research in some area of computer and information science; primarily for students who intend to pursue doctoral studies. Students may register more than once for this course with departmental approval.

**CIS 899 Dissertation (variable credit).** *Prerequisite:* Successful completion of comprehensive examinations.

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# **DOCTORAL COURSES (D.B.A.)**

DBA 720 Seminar on Business Teaching Methods (2-0-2). *Prerequisite:* Approval of D.B.A. Director. This course exposes students to a variety of teaching-related issues, such as developing effective lecturing techniques and testing procedures; handling student questions and complaints; preparing the course syllabus; using instructional aids and technology; and understanding faculty and student rights and responsibilities. The course includes both formal lectures on teaching fundamentals and practical in-class teaching experiences. DBA 720 is a requirement for all teaching and research assistants. Credit for this course does not count toward the minimum of 34 hours of D.B.A. course work. Grades assigned on a Satisfactory/Fail basis.

**DBA 802** Applied Multivariate Statistical Analysis (4-0-4). *Prerequisite:* OMS 633/733. This course develops applications of multivariate statistical methods such as multiple regression, analysis of variance and covariance, discriminant analysis, and factor analysis. Computer program packages for the methods are used extensively. The emphasis is on the analysis of actual data from areas of interest to the students.

# DBA 803 Business Research: Analysis and Applications (4-0-4).

*Prerequisite:* DBA 802. This course develops students' formal research skills and provides an opportunity to integrate skills and knowledge obtained in the other core courses in designing and conducting a research study. In-depth study of current business research methodology and design. Key research studies are critiqued in a variety of business areas. As a course project, students select a research hypothesis, access an appropriate data set, and apply appropriate statistical techniques to test the hypothesis. A comprehensive written report of the research process and the conclusions reached is required.

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#### **ECONOMICS**

For course titles and descriptions, see the <u>Master of Arts in Economics</u> section of this Catalog.

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#### **FINANCE**

**FIN 501 Financial Management (3-0-3).** *Prerequisites:* ACT 501, ECN 503, and OMS 503. Study of the basic tools and concepts of financial management. The topics include ratio analysis, risk concepts and valuation principles, capital budgeting, cost of capital, leverage, dividend policy, financial instruments, financial planning, working capital management, and short-term and long-term financing (cannot be used for elective credit).

**FIN 601 Financial Policies (3-0-3).** *Prerequisites:* FIN 501 and OMS 503. Survey of financial policies and problems. The course covers such topics as working capital management, cost of capital, capital budgeting, capital structure, dividend policy, valuation, mergers and acquisitions, and long-range financial planning. The course includes one or more of the following: cases, readings, and term project.

FIN 603/703 Capital Budgeting Decisions (4-0-4). Prerequisite: FIN 601. Intensive study of the theory and practice of capital budgeting under conditions of certainty and uncertainty. Topics include evaluation of alternative capital budgeting proposals, inflation, risk and uncertainty, cost of capital and long-term financial decisions, project abandonment, leasing, mergers, acquisitions, LBOs, plant-location decisions, executive compensation, and agency problems and costs.

FIN 604/704 Management of Financial Institutions (4-0-4). Prerequisite: FIN 601. The course focuses on the application of financial management policies and analytical techniques to commercial banks and other financial institutions. Discussion of strategic financial issues, such as the regulatory environment, optimal asset allocation, mergers and acquisitions, and cost of capital. Examination of modern management techniques, such as duration-based asset-liability models, the benefits and risks associated with off-balance sheet activity, and a variety of risk-hedging instruments and techniques commonly employed by financial institutions.

**FIN 605/705 Financial Markets (4-0-4).** *Prerequisite:* FIN 601. Analysis and interpretation of current money and capital market trends. Topics include the instruments and primary institutions prevalent in both the domestic and international financial markets, the level and term structure of interest rates, globalization of the financial markets, asset securitization and the growth of mortgage-backed securities, financial innovation, and techniques to hedge interest rate and foreign currency risk.

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**FIN 606/706** Investment Analysis (4-0-4). *Prerequisite:* FIN 601. An intensive study of investment alternatives. The course covers the nature and operation of stock and bond markets; comprehensive treatment of investment as it relates to valuation of stocks and bonds; investment strategies involving stock options and financial futures; an intensive analysis of risk-return tradeoffs and their application to investment analysis; a review of technical analysis and asset pricing anomalies; and taxes and their application to investment strategies.

FIN 607/707 Portfolio Theory and Management (4-0-4). *Prerequisite:* FIN 601. The development and application of modern portfolio theory. Topics include, but are not limited to, portfolio and asset-pricing theory, empirical tests of asset-pricing models, market efficiency, portfolio construction and revision, performance evaluation, international diversification, management of equity portfolios, management of fixed income portfolios, evaluating the impact of security analysis, and the use of options and futures in portfolio management.

**FIN 608/708 Risk Management (4-0-4).** *Prerequisite*: FIN 601. Survey of the basic principles, concepts, and practices underlying the management, protection, and conservation of real property, personal property, and resources of an organization. Risk management techniques studied include assumption, transfer, insurance, loss prevention, and hedging. The course also includes study of health insurance, life insurance, property and liability insurance, annuities, and social insurance.

**FIN 610/710 Real Estate Finance (4-0-4).** *Prerequisite:* FIN 601. Study of mortgage markets, institutions, and instruments, governmental involvement and tax environment relating to real estate finance, and techniques for evaluating real estate investment and financing proposals. Emphasis is on current events and recent trends in the real estate field. Application areas include cash management, capital budgeting, security analysis and portfolio theory, and the interaction between investment and financing decisions.

**FIN 612/712 Real Estate Investment (4-0-4).** *Prerequisite:* FIN 601. Analysis of factors that determine the investment returns and value of real estate versus other alternatives. The curriculum examines decision making from the perspective of institutional, as well as individual, investors, and the

estimation of risk and return in an individual property and portfolio context. Review of current research in these areas, the implications of the results, and further directions for study.

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**FIN 615/715 Derivative Securities (4-0-4).** *Prerequisite:* FIN 606/706 or FIN 607/707. The study of derivative securities, such as futures, options, options on futures, and swaps. Topics include, but are not limited to, characteristics of derivatives markets, pricing models, trading mechanisms, contract specifications, hedging and speculation, market efficiency, corporate risk management using derivatives, and financial engineering.

FIN 621/721 International Financial Management (4-0-4). *Prerequisite:* FIN 601. An overview of the international financial system and the application of principles of business finance in an international context. The course considers foreign exchange markets, balance of payments and exchange rate policies, financial functions in the multinational firm, including capital budgeting, cost of capital and capital structure, intracompany payments and taxation of multinational firms and export companies, motivations for direct foreign investment, international accounting, and the international banking and financial system.

# FIN 696 Current Problems in Finance (one to four credits).

*Prerequisite:* FIN 601. Selected problems in the field of finance. With permission of instructor, may be repeated if topics vary. Offered at departmental discretion.

**FIN 801 Theory Seminar (3-0-3).** *Prerequisite:* Completion of Advanced Analytical and Operational Core. An in-depth treatment of finance theory in perfect markets. Topics include fundamentals of choice under risk, portfolio theory, asset-pricing theory, and option-pricing theory. Required for finance majors in the D.B.A. program.

FIN 802 Seminar in Corporate Finance (3-0-3). *Prerequisite:* Completion of Advanced Analytical and Operational Core. An extensive reading of the current literature in the field of corporate finance. The course concentrates on capital structure and dividend policy, but also investigates selected topics in corporate finance such as mergers and acquisitions. Recent developments in these fields are emphasized, including agency theory, the impact of asymmetric information and signaling, and the role of contingent claims analysis. Required for finance majors in the D.B.A. program.

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# FIN 803 Seminar in Investment and Portfolio Models (3-0-3).

*Prerequisite:* Completion of Advanced Analytical and Operational Core. The course covers the major areas in investments: portfolio theory, asset pricing,

speculative markets, market efficiency, and performance evaluation. Required for finance majors in the D.B.A. program.

# FIN 804 Seminar in Financial Institutions and Markets (3-0-3).

*Prerequisite:* Completion of Advanced Analytical and Operational Core. Study of the structure and functions of financial markets. Topics include theories on financial intermediation and the banking firm, asset allocation/liability choice models, loan contracts/credit rationing, depository and non-depository financial institutions, deposit insurance, bank regulation, and financial innovation.

# FIN 805 Seminar in International Financial Management (3-0-3).

*Prerequisite:* Completion of Advanced Analytical and Operational Core. Study of the international financial system and the application of principles of business finance in an international context. Topics include the finance function in the multinational firm, foreign exchange markets, cost of capital, and capital expenditure analysis in the multinational firm. International accounting and reporting procedures are reviewed.

FIN 806 Seminar in Real Estate (3-0-3). *Prerequisite:* Completion of Advanced Analytical and Operational Core. The course covers the major areas in real estate: equity ownership (investment), debt financing (mortgage lending), and appraisal. Specific topics include asset pricing, market efficiency, innovation, and data availability. Emphasis on empirical analysis, extensive readings, hands-on data analysis, and applied research. Students are required to design a significant research project during the class.

# FIN 807 Applied Research Methods and Design in Finance (3-0-3).

*Prerequisites:* Completion of the Advanced Analytical and Operational Core and two master's level courses in mathematical economics and econometrics. A course covering selected topics in stochastic processes and time-series analysis; includes applications of probability theory and statistical techniques in financial research.

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## FIN 891 Doctoral Research in Finance (variable credit).

*Prerequisites:* Completion of two 800-level finance electives. Up to 12 credits may be considered toward dissertation credit requirements.

**FIN 895 Dissertation Research Seminar (3-0-3).** The focus is on research in finance involving faculty, outside speakers, and dissertation-stage doctoral students.

**FIN 896** Current Problems in Finance (variable credit). *Prerequisite:* FIN 801. Investigation of selected problems in the field of finance. May be repeated with change in topic.

**FIN 899 Dissertation (variable credit).** *Prerequisite:* Successful completion of comprehensive examinations.

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#### **GENERAL ADMINISTRATION**

GAD 501 Business English (4-0-4). Intensive work on mastering basic English skills needed for graduate study in business. Emphasis on building vocabulary and verbal fluency and on improving grammar, sentence structure, and listening and reading comprehension. Lab required. Must pass the final examination with a grade of "B" or better before registering for GAD 502. Note: Required for full-time students who score below the 16th percentile on the verbal section of the GMAT or GRE. Students required to take GAD 501 must consult their program advisor to determine which other courses may be taken concurrently.

GAD 502 Intermediate Business English (3-0-3). *Prerequisite:* GMAT or GRE test score between the 16th and 19th percentile or GAD 501. Intensive work on mastering intermediate English communication skills for business. Emphasis on building content-specific vocabulary and more sophisticated grammatical skills as well as on critical reading and analytical writing. Lab required. Must pass the final examination with a grade of "B" or better before registering for GAD 515.

GAD 515 Communications for Managers (3-0-3). Introduces fundamental and advanced techniques of effective written and oral communications for a business/professional environment. Topics include oral presentations and writing of common business documents including letters, memos, and reports (cannot be used for elective credit).

GAD 696 Current Problems in General Administration (one to four credits). *Prerequisite:* Permission of department chair.

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## HEALTH CARE ADMINISTRATION

**HCA 500** Tools for Health Care Managers (3-0-3). Quantitative methods needed for the evaluation, planning, and implementation of health services. Statistical procedures, such as regression analysis and severity indices, are covered. Topics include service delivery problems in the health services industry, such as inventory stocking, operations scheduling, quality assurance,

and cost performance. Case studies from the health services industry are used to illustrate the methods presented in class. Computer applications also are emphasized.

HCA 510 Administrative Uses of Epidemiology (3-0-3). The study of the distribution and determinants of health, disease, and disability in human populations. Specific topics include principles and methods of epidemiology; the concepts of health and illness and their operational measures; epidemiological techniques used to identify health problems in a community; examination of lifestyle, the medical care system, and the social and physical environment as determinants of health; the multiple responsibilities of public health departments; the application of epidemiological principles to the study of health services use, program evaluation, and quality of care; and population-based approaches to determining health resource requirements.

HCA 515 Medical Care Organization (3-0-3). The analysis of the current arrangements for the organization, financing, and delivery of medical care services. Specific topics include access to care; health care costs and cost containment; the value system of the health care industry; health policy and politics; the supply, demand, and distribution of health care facilities and human resources; competition and regulation; health insurance (both public and private); newer options for the delivery of health services, including the HMO and PPO; and health care services in an international perspective.

HCA 516 Social Environment of Health Care (3-0-3). *Prerequisite:* HCA 515. Topics include an examination of leading social/psychological models of health services utilization; introduction to health survey research design and methods; sociological aspects of the patient/physician relationship; social control in health care; and health care ethics and ethical decision-making systems as applied to administrative issues.

HCA 520 Behavior of Health Care Organizations (3-0-3). *Prerequisite:* HCA 515. Introduction to organizational behavior in health care institutions and programs including hospitals, long-term care facilities, HMOs, and voluntary health agencies. Emphasis on the governance structure, medical staff relationships, and the general and departmental operation of the facility; the analysis of significant material from the field of organizational behavior and its application to the health care environment; and the general management and health care-specific roles of the health care administrator.

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# **HCA 525** Information Systems in Health Care (2-0-2).

*Prerequisite:* HCA 515 or equivalent. Examines ways in which an integrated information system can provide data to support the operations, management, and decision-making functions in a health care organization. Consideration of the applications of the computer in the hospital and other health care institutions. Collection, storage, processing, and presentation of information for

internal and external use. Projects include use of major microcomputer spreadsheet, graphics, and database packages.

HCA 555 Analysis of Health Care Markets (3-0-3). *Prerequisites:* HCA 500 and HCA 515 or permission of instructor. This course emphasizes the application of microeconomic models to health service issues and problems. Special emphasis is placed on current policy issues, such as consumer education and the cost of information, and to approaches that address problems or inadequacies in the health services delivery system. Additional emphasis is placed on market structure, industry configuration, and the consequences for quality, cost, and service delivery. Prior course work in microeconomic (price) theory is not required.

**HCA 601 Healthcare Financial Management (3-0-3).** *Prerequisites:* FIN 501 and permission of instructor. Covers working capital management, cost of capital, capital budgeting, mergers and acquisitions, reimbursement methodologies, risk management, managed care contracting, and long-range financial planning for the health services industry.

HCA 615 Quality of Care (3-0-3). *Prerequisites:* HCA 500 and HCA 515 or permission of instructor. Teaches specific methods useful in improving quality. Class participants learn to select, apply, and interpret quality tools and methods. Basic tools covered in the course are assessment of organization culture, cause-and-effect diagrams, two-stage sampling, control charts for mortality, control charts for patient health status, and severity-adjusted control charts. The basic behavioral techniques discussed are nominal group technique, integrative group techniques, subjective data, and influences on a physician's practice patterns.

HCA 625 Health Care Informatics for Managers (3-0-3). *Prerequisites:* Completion of IST 502 or course waiver, the HCA Core, and permission of instructor. Health Care Informatics can be defined as the management and transformation of various health data components into information and knowledge that is used by health care managers to improve the process of health care. This course develops an understanding of the concepts relevant to Health Care Informatics and the present status of information technology in health care organizations. The main focus is the use of computer-based applications to support clinical and administrative managers in health care today.

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**HCA 640 Health Care Law (3-0-3).** *Prerequisite:* HCA 515. Introduction to health care law. Considers the roles and rights of the major forces in the health care industry: patients, hospital administration, governing boards, health care practitioners, and state and federal governments. Topics include issues of government regulation, corporate organization and financing, medical staff privileges, death and dying, consent to treatment, legal aspects of nursing

services, hospital liability, informed consent, collection and disclosure of patient information, legal considerations in financial management and health planning, labor law, and other special, complex issues of health care law.

HCA 645 Decision Analysis (3-0-3). *Prerequisites:* HCA 500 and HCA 515. Introduces students to methods of analyzing decisions and expert opinions, including probability and utility models. Emphasizes behavioral methods of consulting decision makers and groups of experts. Students learn how to organize, conduct, and report on meetings of groups of experts to produce consensus decision models. A hands-on workshop that introduces tools and applies them to realistic tasks. Because students learn by doing, most classroom time is devoted to practice runs instead of didactic lectures. Most examples used in lectures come from analyses of decisions made by managers in the service industry.

**HCA 650** Long-Term Care (3-0-3). *Prerequisite:* HCA 515. The unique needs of long-term care facilities provide a new challenge for health administrators. This course covers the history of long-term care facilities, economic and financial aspects of care, different models of service delivery, and alternative care systems. The current federal programs in the U.S. and other Western countries are studied.

**HCA 660** Integrative Business Strategy for Healthcare Administrators (4-0-4). *Prerequisites:* Completion of all M.P.A./HCA courses (may be taken concurrently with HCA 601) and permission of the instructor. Presents the integrative and cross-functional nature of strategy and decision making in the health services industry. Principles, concepts and theories from strategic planning, marketing, finance, human resources management, accounting, and operations management are applied to administrative decisions and the formulation of strategic business plans for the health services industry.

HCA 661 Managed Care Arrangements (3-0-3). *Prerequisites:* HCA 500 or equivalent and HCA 515 or permission of instructor. Course work designed to provide class participants with the ability to operationalize workable strategies consistent with a managed care environment. Emphasis is placed on developing an understanding of managed care as a concept and then acquiring the requisite tools, such as capitation and contract negotiation needed for implementation, maintenance, and evaluation of services in a managed care environment in both the public and the private sectors.

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**HCA 680** Current Issues in Health Care Seminar (3-0-3). Exploration of current or future problems, issues, and developments in the health care field; conducted in a seminar/class setting.

HCA 685 Health Care Internship (three credits). Supervised internship designed to provide work experience in the health care field and administrator-

in-training experience for graduate students preparing for careers in nursing home administration; 220 to 520 clock hours of experience may be arranged with the permission of the executive-in-residence and designated internship preceptor. This course is only for M.P.A. students and those M.B.A. students who wish to pursue a career in nursing home administration.

**HCA 686 Health Care Internship (one credit).** Continuation of HCA 685. May be taken a maximum of two semesters.

# HCA 690 Administrative Internship (five credits). Prerequisite:

Permission of the HCAP Director and Executive-in-Residence. Administrative internship for M.B.A./HCA. students only. Normally taken as the last course in the curriculum after completion of all basic, core, and concentration course work. Includes credit for professional site visits, the shadowing experience, and the professional development seminar.

HCA 691 Administrative Internship/Research Project (one credit). Continuation of HCA 690. May be taken a maximum of two semesters.

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**HCA 695** Research Seminar (three credits). *Prerequisite:* Permission to register must be obtained from the HCAP Director early in the semester prior to enrollment in the course. Study of a significant problem in health care administration, with topic selected from candidate's area of interest; a written report, suitable for publication in a professional journal, is required.

**HCA 696** Research Seminar (one credit). Continuation of HCA 695. May be taken a maximum of two semesters.

**HCA 698** Independent Study in Health Care Administration (one to four credits). *Prerequisite:* Permission of instructor. Supervised study of a health services industry issue or problem. Offered every semester. May only be taken for a letter grade.

**HCA 699** Independent Study in Health Care Administration (one to four credits). *Prerequisite:* Permission of instructor. Supervised study of a health services industry issue or problem. Offered every semester. May only be taken for a satisfactory/unsatisfactory evaluation (S/U).

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#### INFORMATION SYSTEMS

Information Systems (IST) courses may not be taken for credit toward the

Master of Computer and Information Science degree.

IST 500 Fundamentals of Systems Development (3-0-3). Introduction to computer programming for business and IS students. No previous experience and knowledge of programming is required. Visual Basic is used to teach programming concepts and practices. Topics include variables and their types, control structures, flow control, controls for graphical-user-interfaces, event-driven programming, file and database processing using MS Access, and the application development cycle.

# IST 501 Information and Computer Technology Concepts (2-0-2).

Concepts of information processing technology and computers. Overview of computer hardware and operating and application software. Microcomputers and DOS are explored in detail. Concepts of spreadsheets are introduced. Students are taught business problem solving and are expected to use personal computers, demonstrate competency in Windows, and solve business problems using spreadsheet software.

**IST 502 Information Technology (1-0-1).** *Prerequisite: IST 501.* Typical uses of information systems, including end-user computing. Introduces database systems. Enhances end-user computing skills through development of business systems using fourth generation languages. Students use database software to process queries and to develop forms and reports.

# IST 511 Advanced Programming of Business Systems (4-0-4).

*Prerequisite:* IST 500 or equivalent. Presents a large set of algorithms important to a variety of programming situations commonly needed to implement advanced business systems. Different types of data structures are presented in an attempt to find the model that best suits a given problem. Introduces the concepts of static and dynamic data types and includes in-depth discussion of Visual Basic class modules. Efficiency issues are discussed. Students are exposed to advanced database programming techniques using Data Object Model in Visual Basic.

**IST 601 IT for Competitive Advantage (3-0-3).** Provides an understanding and appreciation for the role of information technology and how this technology is leading changes in an organization. Discusses the competitive role of IT and how it affects the strategy and operation of modern business organizations nationally and internationally. Enables students to lead technology-enabled organizational change involving collaboration technologies.

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**IST 608 Business Database Systems (3-0-3).** *Prerequisite:* IST 501. Database concepts; database modeling using the entity relationship model; the relational database model; database processing in a PC environment. A detailed study of a desktop database package, including data organization capabilities, data maintenance capabilities, query facilities, form and report capabilities, and

programming capabilities. SQL and QBE.

**IST 609 Business Systems Analysis and Design (3-0-3).** *Prerequisite:* IST 501. Overview of the systems development life-cycle; cost/benefit analysis; information requirements analysis, including data flow diagrams; systems proposal report; role of the systems analyst; system design, including user interface design, file design, and input/output design; project management for managers interacting/participating in data processing projects.

IST 610 Object-Oriented Programming for Information Systems (4-0-4). *Prerequisite:* IST 511 or equivalent. The concept of object-oriented methodologies and programming are presented through Java and the C++ programming languages. Language syntax, error handling, object creation/

destruction, and memory allocation strategies are explored. Java GUI components, event handling, and web-based programming are introduced.

IST 615 Decision Support and Expert Systems (3-0-3). *Prerequisite:* IST 608. Study of areas in which computers can be used as tools in management decision making and evaluation of alternatives. Functional components of a Decision Support System (DSS). Decision models and end-user modeling. User-DSS interfaces. Planning and developing a DSS. Concepts of knowledge-based systems and expert systems. Components of expert systems. Knowledge acquisition. Expert systems development with a commercial shell. Manipulation of quantified uncertainty factors. Derivation of knowledge from data. Significance of groupware and document management systems to decision making.

**IST 621 Systems Analysis Methods (4-0-4).** *Prerequisite:* IST 500 or equivalent. Introduces the student to the techniques of developing an information system. Students study the system life cycle, system analysis methodologies, data analysis techniques, system design, joint application design, rapid application design and an overview of object oriented systems. Students are also expected to use a CASE tool to develop a system specification.

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**IST 631 Design and Implementation of DBMS (4-0-4).** *Prerequisite:* IST 511. Design and implementation of databases. Data modeling and modeling tools. Models for databases: relational, hierarchical, network, object oriented. Integrity, concurrency, normalization, and SQL. Data ware-houses and mining. GUI interfaces to databases. System implementation using database and graphical tools, testing, conversion, and post-implementa-tion reviews.

**IST 640** Management of Business Networks (3-2-4) *Prerequisite:* IST 511 or equivalent. Introduces the managerial and technical aspects of business networks including the hardware and software mechanisms that allow access from one computer to files and services provided on other computers. An

overview of Local Area Nets (LAN) and Wide Area Nets (WAN) is provided, as are those of software protocols, routers, bridges, and firewalls. On the practical side, the student learns about the network services provided by the operating system (Windows/NT), network analyzers, and the management of security and reliability. The student also learns to install, configure, and test network hardware/software, and use such facilities in practical applications including e-mail, remote file access, client/server hookups, and dial-up networking.

**IST 641 Electronic Commerce (3-0-3).** *Prerequisites:* IST 500 and IST 601. Provides an understanding of evolving Internet technologies and explores the business implications of these developments. Focus is on the fit between technology and strategy. Provides tools, skills, and an understanding of technology, business concepts, and issues that surround the emergence of electronic commerce on the Internet. In addition to acquiring basic skills for navigating the Internet and creating a personal electronic presence on the World Wide Web, the student develops an understanding of the current practices and opportunities in electronic publishing, electronic shopping, electronic distribution, and electronic collaboration.

**IST 642** Web Site Design and Development (3-0-3). *Prerequisite:* IST 631. Covers web publishing and web-based application development, with emphasis on accessing server databases. Web site design concepts and tools are introduced, including HTML, JavaScript, Cascading Style Sheets, VBScript, XML, and Active Server Pages. Prepares students with skills for designing, programming, and publishing web sites, as well as developing applications on the web.

**IST 694** Special Topics in Information Systems (4-0-4). *Prerequisite:* Varies with course content. Special topics of current interest in information systems. Content varies with each offering.

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#### **MBA COURSES**

**MBA 500 Environment of Business (3-0-3).** Explores and analyzes the ethical and legal implications of significant environmental forces impacting business. Topics include corporate social responsibility, workplace and employment issues, multinational business operations, U.S. and international legal/regulatory issues, ecology issues, and models of ethical analysis for management decisions.

**MBA 600 Team Dynamics (1-0-1).** *Prerequisites:* Completion of Level I and Level II or permission of M.B.A. program advisor. A hands-on, exercise-oriented workshop, which explores issues in team building, group performance,

team leadership, interpersonal interactions, and related topics.

MBA 602/702 International Business (3-0-3). Explores the impact of global environmental forces on management strategies for entering or operating in international markets. Surveys theories and concepts in international marketing, finance, operations, and strategic planning. Considers managerial implications of global trends in politics, trade, culture, regulatory practices, and the role of international institutions.

MBA 603 Management of Innovation, Technology, and Quality (3-0-3). Integrates technology and quality into the strategic management and operations of the firm. Discussion of methods for formulating technology, strategy, choosing core technologies, organizing R&D, managing research projects, and bringing to market new products that meet quality specifications and cost targets. Students learn the techniques of total quality management, how they can be introduced, and how they can be used to improve products, processes, and services of the firm.

# MBA 660 Integrative Business Strategy (4-0-4). Prerequisites:

Completion of Level I and Level II or permission of M.B.A. program advisor. Explores the integrative and cross-functional nature of corporate strategy and decision making. Applies principles, concepts, and theories from business and marketing strategy, corporate finance, human resources management, managerial accounting, and operations management to management decisions and the formulation of strategic business plans.

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**MBA 690 Business Internship (3-0-3).** *Prerequisite:* Permission to register must be obtained from the Graduate Programs Office early in the semester prior to enrollment in the course. Requires professional work experience in an organizational environment that extends the M.B.A. curriculum and provides meaningful experience related to the student's area of interest.

**MBA 693** Special Topics Seminar (3-0-3). Topic varies from term to term. Special seminars are offered for lock-step programs. May be repeated with change in topic, with permission of instructor.

MBA 698 Research Project (one to four credits). *Prerequisite:* Permission to register must be obtained from the Graduate Programs Office early in the semester prior to enrollment. The study of a significant problem in a topic selected from the student's area of interest, conducted under faculty supervision. A written report, suitable for publication in a professional journal, is expected.

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#### MANAGEMENT AND LABOR RELATIONS

MLR 501 Management and Organizational Behavior (3-0-3). Focuses on the dynamic interactions of people working in organizations; applies various managerial concepts, models, theories, and tools for identifying, diagnosing, and solving organizational problems; topics include motivation, leadership, job design, decision making, and group and team dynamics.

MLR 504 Organizational Theory and Design (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. Nature and importance of organizational structure and design; functions and dysfunctions of traditional designs; how and why organizational designs change; effects of the environment, technology, information and control systems, power structures, and political behavior on organizational performance.

MLR 511 Labor History (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. Examination of the organized labor movement in the United States and its influence on political and legal institutions; analysis of legislation relating to labor, management, and the public; laws and regulations concerning wages, hours, collective bargaining, labor contracts, and arbitration.

MLR 521 Comparative Labor Systems (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. American and foreign labor movements; trade unionism and industrial relations systems in different areas of the world, showing their roles in economic, social, and political developments; comparison of structure and functions of labor movements at various stages of economic development.

MLR 522 Labor Law (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. The law of industrial relations with emphasis on the Labor-Management Relations Act, including unfair practices and representation cases.

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# MLR 523 Labor Relations in Public Employment (3-0-3).

*Prerequisite:* MLR 501 or permission of instructor. Collective bargaining by federal, state, and local employees; differences between public and private employment; union security, impasse procedures, and implications of collective bargaining for public management; impact of collective bargaining on wages and other conditions of employment in the public sector.

MLR 531 Employment Practices Law (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. Analyzes employment practices law and its impact on employment decision making; equal employment opportunity and discrimination; occupational safety and health; pension and benefit regulations and laws that pertain to the employment relationship; emphasis on the impact of regulations on organization personnel and human resource policy.

MLR 543 Entrepreneurship (3-0-3). *Prerequisite:* None for business students; permission of instructor for non-business students. Exploration of the business formation process, the management and operation of new/smaller enterprises both within and apart from existing ventures; students are required to develop a written business venture plan and may act as advisors to existing smaller enterprises.

MLR 547 Cross-functional Management (4-0-4). *Prerequisite:* MLR 501 or permission of instructor. Analysis of issues involved in managing different functional departments; examination of the types of interactions and conflicts that typically occur between departments; methods of dealing with interdepartmental problems considered along with current management techniques for improving strategic and operational performance.

MLR 555 Trends in Employee Relations and the Quality of Working Life (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. Exploration of cooperative work systems and efforts by labor and management to work together to improve the quality of work life by increasing effectiveness of the organization, its productivity, quality, and work satisfaction, and understanding the processes used to accomplish these ends.

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MLR 577 Managerial Skill Development (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. Analysis of aspects of managing in which specific behavioral skills can be developed; focus on individual managers and skill development in such areas as goal setting, time management, conducting meetings, communication processes, delegation, training, and appraisal interviews.

MLR 587 International Management (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. Strategic, managerial, and human resource issues in international business management; cultural differences and managerial practices in different countries; planning and control of small businesses and global enterprises; evaluating the performance of overseas subsidiaries; coordinating operations in different countries; overseas decisions; career concerns with overseas assignments.

MLR 601/701 Human Resources Management and Labor Relations (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. A review of basic processes and significant issues in managing human resources in organizations; topics include recruitment, employee selection, training, compensation and benefits, legal issues, the historical framework for organized labor, union behavior, and collective bargaining.

MLR 602/702 Advanced Wage and Employment Theory (3-0-3). *Prerequisites:* MLR 601 and ECN 503 or equivalent, or permission of

instructor. Supply and demand for labor, search process, wage differentials, vacancies, and unemployment; union growth, models of the bargaining process, and the impact of unions on labor markets.

# MLR 604/704 Interpersonal Relations and Group Dynamics (3-0-3).

*Prerequisite:* MLR 501 or permission of instructor. Current topics affecting the management of individuals and groups; designed to stimulate new insights and behaviors to improve interpersonal effectiveness; exploration of issues such as network building, leadership, impact of positive expectations, agenda setting, power and influence, mentoring, team building, innovation, and group process.

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MLR 605/705 Organizational Development (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. Issues involving organizational change and methods for helping organizations adapt to rapidly changing environments; strategies and methods of organizational change; consultative methods and the role of the change agent; the nature of organizations in the future; methods of needs assessment; and indicators of organizational effectiveness.

# MLR 606/706 Research and Development Management (3-0-3).

*Prerequisite:* MLR 501 or permission of instructor. Problems in research and development administration, emphasizing planning, organizing, directing, and controlling the research function; responsibilities of research administrators; coordination of outside research services with the rest of the organization; supervising research personnel; development of organizational designs conducive to R&D effectiveness.

MLR 607/707 Total Quality Management/Continuous Quality Improvement (4-0-4). *Prerequisite:* MLR 501 or permission of instructor. Overview of managerial considerations in implementing an enterprise-wide quality improvement program; course includes discussion of senior management leadership, objectives, strategy, program design, implementation structure, customer satisfaction measurement, process improvement, training, lower-level involvement, supporting management programs, and the assessment of financial results.

MLR 609/709 Individual Differences: Their Assessment and Managerial Implications (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. Analysis of individual differences and their influences on effective management; emphasis on the presentation of various assessment measures, their evaluation, and application of results toward the understanding of individual behavior; implications for effective self-management, career advancement, motivation, leadership, and decision making are discussed.

MLR 611/711 Team Problem-Solving Process (2-0-2). *Prerequisite:* MLR 501 or permission of instructor. Analysis of problem-solving processes

in small, cross-functional teams; emphasis on developing behavioral skills in problem analysis and solution selection; team facilitation skills, including listening and feedback, conflict management, and conducting meetings; building coalitions with external groups and action plans necessary for successful project implementation.

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MLR 621/721 Multinational Management (3-0-3). *Prerequisite:* MLR 501 or permission of instructor. Advanced study of multinational corporations in diverse political, economic, and cultural environments; examination of concepts and theories relating to multinational business strategy and operations; broad coverage of issues affecting top management decision making, including business-government relations, headquarters-subsidiary relationships, and cross-functional coordination of operations across borders.

MLR 640/740 Performance Appraisal and Compensation Systems (3-0-3). *Prerequisite:* MLR 601 or permission of instructor. Detailed study of performance appraisal and compensation systems; includes job analysis, job evaluation, wage surveys, pay structure design, individual and group incentive systems, appraisal methods, and salary and benefits administration; also includes economic, legal, and union influences and role of reward systems as a source of work motivation and perceptions of fairness.

MLR 641/741 Employment Planning, Personnel Selection, and Training (3-0-3). *Prerequisite:* MLR 601 or permission of instructor. Processes, concepts, and techniques relevant to the planning, recruitment, selection, and training functions of human resource management; evaluation of personnel techniques; focus on organizational and governmental constraints and influences.

MLR 645/745 Information Systems in Human Resource Management (4-0-4). *Prerequisite:* MLR 601 or permission of instructor. Comprehensive analysis of the use of information systems in human resource management; involves extensive study of the design, selection, and implementation of HRIS software and hardware including mainframe, client-server, and microcomputer technology; emphasis on the use of computer applications to perform such functions as human resource planning, selection, appraisal, compensation, and benefits administration; hands-on experience with advanced HRIS software is a major element of course instruction.

MLR 649/749 Small Business and the Law (3-0-3). Offered in conjunction with the Cleveland-Marshall College of Law; focuses on matters of concern to entrepreneurs and their businesses and the interface of professionals who serve entrepreneurs and their businesses; topics include family business, ethics, boards of directors, understanding the legal implications of selected topics, and the roles of clients and professionals.

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MLR 651/751 Collective Bargaining (3-0-3). *Prerequisite:* MLR 601 or permission of instructor. Structure of organized labor; types, methods, and aims of unions; trade and labor contracts; arbitration and mediation methods, and services; federal and state regulation of collective bargaining.

MLR 686/786 Current Problems in Management and Labor Relations (3-0-3).

*Prerequisites:* MLR 601 and permission of instructor. Seminar dealing with selected problems in the field of management or labor relations. May be repeated with change in topic.

MLR 688 Internship (one to three credits). *Prerequisites:* Two MLR courses, at least one of which must be at the 600 level, and permission of instructor. Provides students with an opportunity to gain practical experience in human resources, labor relations, and/or management; may be arranged at the initiative of the student or the faculty member; offers a maximum of three semester hours for a 14-hour-per-week internship with fewer semester hours offered for fewer hours of work. The course is graded on a Satisfactory/Fail basis.

MLR 696/796 Alternative Dispute Resolution (3-0-3). Prerequisite: MLR 601 or permission of instructor. Survey of the various types of dispute resolution processes available as alternatives to litigation; detailed study of the primary dispute resolution processes negotiation, mediation, and arbitration well as some of their hybrid variants; description and analysis of several noteworthy applications, the context for which ranges from the personal to the global; consideration of the impediments to use of so-called alternative dispute resolution processes, such as the alternatives to court adjudication, and suggestions on how those impediments might be overcome.

MLR 698 Research Project (3-0-3). *Prerequisites:* Two MLR courses, at least one of which must be at the 600 level, and permission of instructor. Application must be submitted to the Graduate Business Programs Office early in the semester prior to enrollment in the course. Study of a significant problem in some phase of human resources or labor relations with the topic selected from the candidate's area of interest; a written report, suitable for publication in a professional journal, is required.

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MLR 800 Research Design and Measurement (3-0-3). *Prerequisite:* Completion of the Advanced Analytical and Operational Core. Provides an indepth discussion of research design and measurement issues. Includes principles and logic of experimental and non-experimental design, measurement theory (validity, reliability, and multiple indicators), data theory

and scaling methods (uni-dimensional and summated scales), and comparison, similarity, and preference data.

MLR 801 Theory Seminar (3-0-3). *Prerequisite:* Completion of the Advanced Analytical and Operational Core. Prevailing theories and research trends within the areas of management strategy, international management, organizational behavior, organizational design, and human resource management are examined with a focus on the most recent and relevant developments as they apply to current problems encountered by organizations. Required for MLR majors and minors in the D.B.A. program.

MLR 802 Current Topic Professional Seminar (3-0-3). *Prerequisite:* MLR 801. Topics vary according to instructor, but deal with current issues such as quality of work life, organizational values and cultures, productivity, organizational equity and justice, social responsibility, and salient labor/management relations issues; emphasis on the application of problem-solving techniques and tools as they relate to the selected subject areas.

MLR 803 Seminar in Organizational Behavior (3-0-3). Prerequisite: MLR 801. Concepts, theories, methods of inquiry, and empirical generalizations from the behavioral sciences to the understanding and control of behavioral processes in organizations; topics include theory construction and testing, perception and attitude formation, leadership, motivation, job design, job satisfaction, group dynamics, conflict resolution, managing organizational change, organizational culture, and organizations as social systems.

MLR 804 Seminar in Strategic Management (3-0-3). *Prerequisite:* MLR 801. Research in strategic management; major theoretical models and empirical research projects are critically examined; emphasis on the potential for practical applications to the strategic management of complex organizations.

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MLR 805 Seminar in Labor Relations (3-0-3). *Prerequisite:* MLR 801. Provides an understanding of the theoretical and empirical work bearing on current issues in the field; students investigate such topics as union organizing, grievance procedures, bargaining theory, and bargaining outcomes.

# MLR 806 Seminar in Human Resource Management (3-0-3).

Prerequisite: MLR 801. Research in human resource management, including theoretical models and empirical research, is critically examined; topics include gender and race effects, recruitment and selection, socialization and training, career issues, and the changing nature of the employment relationship, compensation systems, international HR issues, and performance appraisal; focus is on understanding and critically analyzing empirical research in HRM in order to evaluate the potential application of HRM practices to complex organizations.

MLR 807 Seminar in Organization Development (3-0-3). Prerequisites: MLR 801 and MLR 803. OD methods used in solving managerial and organizational problems, such as team building, team-skills training, survey-feedback training, behavior modification, job enrichment, and contemporary management systems; particular focus on the procedures to be used, ways of countering resistance to change, and methods of measuring and evaluating interventions.

MLR 891 Doctoral Research in Management and Labor Relations (variable credit). *Prerequisites:* Completion of two 800-level management and labor relations electives. Up to 12 credits may be considered toward dissertation credit requirements.

MLR 895 Dissertation Research Seminar (3-0-3). Focus on research in management and labor relations involving faculty, outside speakers, and dissertation-stage doctoral students.

MLR 896 Current Problems in Management and Labor Relations (variable credit). *Prerequisites:* MLR 800 and MLR 801. Investigation of selected problems in management and labor relations. May be repeated with change in topic.

MLR 899 Dissertation (variable credit). *Prerequisite:* Successful completion of comprehensive examinations

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## **MARKETING**

MKT 501 Marketing Theory and Practice (3-0-3). Examines theoretical and practical considerations in strategic market planning. Explores managerial, ethical, societal, and global dimensions of marketing decision making. Focuses on segmenting markets and making product, pricing, promotion, and distribution decisions.

MKT 511 Retail Management (4-0-4). *Prerequisite:* MKT 601 or permission of department chair. Provides retail management and merchandising framework for all types of businesses. Includes store location, layout, and design; merchandise offerings, assortments, pricing, and control; internal operations staffing, supervision, promotions, customer services, store operations, and expense control; opportunities for small retailers; and legal and ethical considerations.

MKT 550 Professional Selling and Sales Management (4-0-4).

Prerequisite: MKT 601 or permission of department chair. Covers tasks and

responsibilities of professional selling and the challenges of managing both the individual and team sales function. Stresses analytical and interpersonal skills, account management, proposal development, planning, organizing, directing, motivating, and controlling a sales organization. Examines legal and ethical issues.

**MKT 552 Business-to-Business Marketing (4-0-4).** *Prerequisite:* MKT 601 or permission of department chair. Explores concepts, analytic tools, management practices, and advances in marketing goods and services to industrial, commercial, institutional, and other business markets in domestic and global environments. Includes lectures, case analyses, discussions, oral presentations, written reports, and implementation of a field project.

**MKT 554** Internet Marketing (3-0-3). *Prerequisite:* MKT 501 or equivalent. The course provides an introduction to Internet technology and the marketing opportunities this technology presents. A multi-dimensional approach is used to combine practical application with marketing principles.

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MKT 556 Data Mining Applications in Marketing (4-0-4). *Prerequisites:* MKT 501 and MKT 601 or permission of department chair. The understanding, use, and application of data mining software analysis to marketing problems. Topics include defining the problem, obtaining data, organizing and cleaning the data, selecting the appropriate data mining models for analysis, initializing and running the software, comparing models, scoring the data, testing models, and assessing outcomes. Lecture, discussion, cases, projects, and laboratory instruction.

**MKT 601 Marketing Management (3-0-3).** *Prerequisite:* MKT 501 or equivalent. Explores advanced theories, concepts, and techniques for formulating strategic marketing plans for business and non-business organizations in U.S. and global environments. Topics include environmental analysis, market opportunity analysis, segmentation and positioning, marketing-mix decisions, and formulating action plans.

**MKT 602/702 Marketing Research (4-0-4).** *Prerequisite:* MKT 601 or permission of department chair. Covers quantitative and qualitative research methods for analyzing marketing efforts and opportunities. Emphasizes primary techniques such as setting objectives, designing projects, collecting, processing, and analyzing data, reporting results to management, and integrating results into decision making. Uses computers and the latest statistical software.

MKT 603/703 Buyer Behavior (4-0-4). *Prerequisite:* MKT 601 or permission of department chair. Examines social and psychological influences on individual, household, and organizational buyer behavior. Investigates models of buyer behavior and applies them in the marketing decision-making

processes. Includes readings, lectures, discussions, and team projects.

MKT 604/704 Strategic and Tactical Marketing (4-0-4). *Prerequisite:* MKT 601 or permission of department chair. Provides an in-depth understanding of marketing planning, focusing on the tools necessary for analysis and decision making in a planning context. Emphasizes marketing decision-support systems in the planning process.

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MKT 605/705 Services Marketing (4-0-4). *Prerequisite:* MKT 601 or permission of department chair. Explores the marketing of services in consumer, business, nonprofit, and global settings. Investigates the nature of services and the theories, concepts, tactics, and strategies for solving marketing problems, improving service quality, and building customer satisfaction.

# MKT 606/706 Advertising and Promotion Management (4-0-4).

*Prerequisite:* MKT 601 or permission of department chair. Examines the key managerial topics involved in the design, implementation, and evaluation of the marketing communications program. Focuses on objective setting, strategy formulation, and promotional research and evaluation.

**MKT 607/707 Product Management (4-0-4).** *Prerequisite:* MKT 601 or permission of department chair. Provides a managerial introduction to special problems encountered in the evaluation, introduction, and management of consumer and industrial products. Focuses on market analysis, new product development, and product planning.

**MKT 608/708 Global Marketing (4-0-4).** *Prerequisite:* MKT 601 or permission of department chair. Emphasizes the marketing mixproduct, promotion, distribution, and pricingwithin the international context, particularly strategic marketing management. Uses cases, readings, films, and textbook. Bases learning materials selection on their pragmatic value to managers. Includes lectures, discussions, and individual/group presentations.

# MKT 696 Current Problems in Marketing (one to four credits).

*Prerequisites:* MKT 601 and permission of department chair. Selected problems in the field of marketing.

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# MKT 800 Research Design and Measurement (3-0-3).

*Prerequisite:* Completion of the Advanced Analytical and Operational Core. Provides an in-depth discussion of research design and measurement issues. Includes principles and logic of experimental and nonexperimental design, measurement theory (validity, reliability, and multiple indicators), data theory and scaling methods (uni-dimensional and summated scales), and comparison, similarity, and preference data.

**MKT 801** Marketing Theory (3-0-3). Investigates the development and evolution of marketing thought. Provides a historical perspective in marketing-theory development by reviewing and assessing selected scholarly works.

# MKT 802 Global Business Strategy: Theory and Practice (3-0-3).

*Prerequisite:* MKT 801. Reviews international business theories and applications, such as absolute and comparative advantage, product life cycle, internalization, market imperfections, and eclectic approaches. Explores issues such as technology transfer, economic development, market integration, and privatization. Includes presentations, research papers, and/or trial dissertation proposal.

# MKT 803 Strategic Marketing and Tactical Decisions (3-0-3).

*Prerequisite:* MKT 801. Explores theoretical concepts of marketing strategies, their development and implementation, and their success and failure in application. Major tactical areas (such as market entry, positioning, product quality, price, promotion, distribution, and evaluation of market performance (are examined. Investigates issues, methods, models, and findings in the literature.

MKT 804 Multivariate Techniques in Marketing (3-0-3). Prerequisite:

MKT 800. Emphasizes multivariate techniques (their assumptions, applications, and interpretation of output. Includes multiple classification analysis, canonical correlation analysis, multivariate analysis of variance, discriminant analysis, factor analysis, cluster analysis, MDS, conjoint analysis, logit and probit models, etc. Uses computer packages to analyze data.

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# MKT 805 Theory and Research in Buyer Behavior (3-0-3).

*Prerequisite:* MKT 801. Introduces current theoretical and methodological issues in consumer behavior. Emphasizes critical evaluation of the relevant literature and explores avenues for theory development and research.

# MKT 891 Doctoral Research in Marketing (variable credit).

*Prerequisite:* Completion of two 800-level marketing electives. Up to 12 credits may be considered toward dissertation credit requirements.

MKT 895 Dissertation Research Seminar (3-0-3). Focuses on research in marketing involving faculty, outside speakers, and dissertation-stage doctoral students. Students must also be enrolled in MKT 899 (Dissertation).

# MKT 896 Current Problems in Marketing (variable credit).

*Prerequisites:* MKT 800, MKT 801, and MKT 802. Investigation of selected problems in the field of marketing. May be repeated with change in topic.

MKT 899 Dissertation (variable credit). *Prerequisite:* Successful completion of comprehensive examinations.

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# **OPERATIONS MANAGEMENT AND BUSINESS STATISTICS (OMS)**

OMS 500 Mathematical Models for Business (2-0-2). *Prerequisite:* Graduate standing. Covers basic algebraic functions, systems of linear equations, and matrix operations to solve systems of linear equations applied to business problems.

## OMS 503 Statistical Methods for Business Decisions (3-0-3).

*Prerequisite:* OMS 500. Includes probability distributions, sampling theory, statistical inference, hypothesis testing, chi-square applications, analysis of variance, regression, and correlation, and the role these techniques play in business decision making. Computer applications and results are discussed and interpreted.

**OMS 511 Operations Management (3-0-3).** *Prerequisite:* OMS 503. Presents a basic review of production-system design and performance requirements. Topics include operations strategy, total quality management, statistical process control, capacity management, supply chain management, layout decisions, master production scheduling, resource planning, MRP/ERP, lean production system (JIT), project management, and scheduling.

**OMS 513 Production Planning and Control (3-0-3).** *Prerequisite:* OMS 511 or equivalent. Problems of planning, scheduling, and controlling of activities related to the production of goods and/or services are examined. Topics include manufacturing planning and control, short-term forecasting systems, demand management and order servicing, master production scheduling (MPS), production planning, capacity planning, integrated MPC systems, implementation of MPC systems, and integrated supply chain management.

OMS 515 Case Studies in Operations Management (4-0-4). *Prerequisite:* OMS 511 or equivalent. Examines classic and current issues in operations management. Provides advanced fundamental and strategic methodologies for operations decision making. Topics include supply chain management, ecommerce, just-in-time, enterprise resource planning, service operations management, customer service, purchasing, quality control, human resource management and strategy. The course includes readings, lectures, guest speakers, and plant tours.

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**OMS 517 Just-In-Time Manufacturing (3-0-3).** *Prerequisite:* OMS 511. Presents the just-in-time philosophy in manufacturing. In-depth exploration of how to synchronize the production process and eliminate unnecessary inventory and non-value-added activities by controlling the process through the use of modern quality methods, such as supplier relationships and preventative maintenance. Students develop a strong understanding of the financial and non-financial incentives used to justify JIT/TQA activities. A solid implementation program also is examined.

# OMS 519 Manufacturing Systems and Technologies (3-0-3).

*Prerequisite:* OMS 511 or equivalent. Development and implementation of manufacturing strategy and the interface/integration of this strategy with other functional areas of the organization. Topics include international comparisons, productivity, strategy formulation and development, order-winners and qualifiers, competitive priorities, process choices, capacity planning, vertical vs. virtual integration, sourcing and supply chain strategy, product profiling, manufacturing infrastructure development, and focused manufacturing.

OMS 531 Sampling and Experimental Design (4-0-4). *Prerequisite:* OMS 503 or equivalent. Presents the principal application of sample surveys, survey design, criteria of a good sample design, and characteristics of simple random sampling, stratified random sampling, and cluster sampling. Case studies are used where appropriate to illustrate applications of survey sampling. Research design, data analysis, and the fundamentals of experimental design are examined. Topics include completely randomized design, randomized complete blocks, latin square, factorial, and analysis of variance in regression models. Application of SAS software to actual data.

OMS 545 Quality Control and Management (4-0-4). *Prerequisite:* OMS 511 or equivalent. Covers the core principles of the management of quality in the production of goods and services. Statistical quality control techniques are used in the implementation of these principles. Topics include TQM, continuous improvement, control charts, sampling plans, process capability, and ISO 9000. Computer software is used where applicable.

**OMS 548 Queuing and Simulation (4-0-4).** *Prerequisite:* OMS 511 or equivalent. Covers the application of discrete-event simulation to operations research problems. Topics include an introduction to a general purpose simulation language, the study of queuing models, random number generation, and the analysis of simulation data using statistical techniques.

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**OMS 601/701 Business Decision Methods (3-0-3).** *Prerequisite:* OMS 503 or equivalent. Introduction to widely used management science techniques. Topics include linear programming, transportation problems, network flows, and decision analysis. Introduces computer packages for these techniques. A variety of case studies involving operations research and production

management are analyzed.

**OMS 611/711 Forecasting (3-0-3).** *Prerequisite:* OMS 503 or equivalent. Intended for students with no previous course work in forecasting. Includes predictions of sales and inventory; examination of criteria for selection of forecasting models, including stage-in-life-cycle of the product; study of smoothing and decomposition methods, leading indicators, multiple regression, and introduction to ARIMA modeling through the use of computer packages.

OMS 621/721 Service Operations Management (3-0-3). *Prerequisite:* OMS 511 or equivalent. Unique managerial problems associated with the design, control, planning, and evaluation of service systems. Tactical and strategic problems faced by service managers and how decisions are actually made in the real world.

**OMS 622/722 Project Management (3-0-3).** *Prerequisite:* OMS 511. Discusses the complexities involved in project management, the use of networks in large-scale projects, and the development of networks. Presents network computations for time, CPM/ PERT, time-cost tradeoff, project scheduling, and other networks such as GERT. Includes the use of computer software.

# OMS 623/723 Materials and Supply Chain Management (4-0-4).

*Prerequisite:* OMS 511. Discusses some fundamental and strategic issues in materials management and supply chain management. Presents decision rules and guidelines for various qualitative or quantitative materials management problems. Topics include purchasing, inventory systems with deterministic and probabilistic demand, multi item inventory systems, materials requirement planning, JIT, distribution inventory systems, coordinating supply chain design, supply chain management strategies, and customer value management. Cases from business and current issues are discussed.

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OMS 624/724 Global Operations Management (3-0-3). *Prerequisite:* OMS 511 or equivalent. Introduction to operations management for companies operating in the international setting. Topics include global operations strategy, supply chain management across multiple national boundaries, global operations projects, and performance issues.

OMS 625/725 Global Operations Management Field Study (0-4-2). Students participate in a hands-on field study in operations of international firms (manufacturing and service) located in foreign countries. Data is collected through interviews with managers and executives of these firms, government officials of the host countries, and published materials, both printed and on the Internet. A term paper is required after returning to Cleveland. The instructor arranges the visit to companies and countries.

OMS 633/733 Multivariate Statistical Methods (3-0-3). *Prerequisite:* OMS 503 or equivalent. Presents applications of multivariate statistical methods, such as multiple regression, analysis of covariance, discriminant analysis, multivariate analysis of variance, and factor analysis. Computer packages for the methods also are introduced and used extensively.

**OMS 640 ISO 9000 and Quality Audit (3-2-4).** *Prerequisite:* OMS 511 or equivalent. Introduction to the international quality standard ISO 9000 and its application to the automotive industry (QS 9000). Techniques of conducting a quality audit are covered. Students form teams to complete live audits (first or second party audit) with local companies. Information systems.

# OMS 645 Statistical Quality Control and Improvement (3-0-3).

*Prerequisite:* OMS 503 or equivalent. A development of the statistical tools for the implementation of statistical quality control and improvement programs. Includes the development of control charts and the fundamentals of experimental design. These techniques are applied in a variety of manufacturing and service situations.

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**OMS 696** Current Problems (one to four credits). *Prerequisite:* OMS 511. Selected problems in the field of operations management. With the permission of the instructor, students may repeat this course if topics vary.

# OMS 801 Theory of Optimization in Production and Operations (3-0-3).

*Prerequisites:* OMS 601/701 or equivalent and completion of Advanced Analytical and Operational Core. Development of advanced optimization models for linear and non-linear systems. Topics include unconstrained optimization, dynamic programming, integer programming, and heuristic algorithms. Required for OMS majors in the D.B.A. program.

OMS 802 Current Topic Professional Seminar (3-0-3). *Prerequisite:* Minimum of one 600-level OMS course. A seminar course in which recent publications play a major role. The topic chosen in any term depends on the interests of the students and the instructor. The topic relates to the application of quantitative methods to any one of the following or related areas: control, logistics, project management, distribution systems, process selection and facility design, multiple criteria decision making, maintenance management, or reliability. Required for OMS majors in the D.B.A. program.

# OMS 804 Production Planning and Inventory Control (3-0-3).

*Prerequisite:* OMS 511 or equivalent. Analysis of various decision areas in an integrated production planning and inventory system. Topics include advanced methodologies related to forecasting, inventory control, material requirements planning, operations scheduling, project scheduling, line balancing, and production control.

**OMS 805 Quality Control (3-0-3).** *Prerequisites:* OMS 511 and OMS 545 or equivalents. A study of advanced statistical techniques relevant to the total quality control aspect in industrial organizations. Emphasis on methodology, such as control charts, inspection systems, acceptance sampling plans, and recent areas of quality control development. Journal articles are used to cover areas of new methodology.

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**OMS 814 Flexible Manufacturing Systems (3-0-3).** *Prerequisite:* OMS 511. Provides the tools for research in Flexible Manufacturing Systems (FMSs) and Advanced Manufacturing Technology (AMT). Topics include recent developments and international comparisons of FMSs, long-range strategic and economic decisions, intermediate-range FMS planning problems, short-range operation scheduling, real-time control and planning, and implementation of advanced manufacturing technology. Papers selected from major academic journals are extensively discussed to identify future research opportunities. Each student is expected to write a literature review paper under the instructor's guidance.

**OMS 819 Operations Strategy (3-0-3).** *Prerequisite:* OMS 511 or permission of instructor. Focuses on the emerging literature and research in operations strategy. Includes the conceptual basis of operations strategy by reviewing the works of authors such as W. Skinner, Hayes, Wheelwright, T. Hill, and C.A. Voss. A focus on current research appearing in journals and conference proceedings. Students develop a familiarity with the literature base and research paradigms in operations strategy. In addition, students develop broader understanding of the research issues in POM in general and establish a POM research agenda.

OMS 822 Project Management and Scheduling (3-0-3). *Prerequisites:* OMS 511 and OMS 622/722 or permission of instructor. In-depth analysis of scheduling problems in project management. Survey of the three fundamental scheduling classes: Resource Constrained Project Scheduling Problems (RCPSP), Time/Cost Tradeoff Project Scheduling Problems (TCTP), and Payment Scheduling Problems (PSP). Investigation of newly introduced problems integrating two or more of the problem classes mentioned above. Survey of the three classes of problems and an introduction to the mathematical formulation of each with the help of several fundamental papers published in the early 1970s.

**OMS 891 Doctoral Research in Production/Operations Management** (**variable credit**). *Prerequisite:* Completion of two 800-level production/operations management electives. Up to 12 credits may be considered toward dissertation credit requirements.

**OMS 895 Dissertation Research Seminar (3-0-3).** Research in production/operations management involving faculty, outside speakers, and dissertation-

stage doctoral students.

**OMS 896** Current Problems in Production/Operations Management (variable credit). *Prerequisites:* OMS 801 and OMS 802. Investigation of selected problems in production/operations management. May be repeated with change in topic.

**OMS 899 Dissertation (variable credit).** *Prerequisite:* Successful completion of comprehensive examinations.

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#### PUBLIC HEALTH

MPH 601 Public Health Concepts (3-0-3). *Prerequisite:* Graduate standing; permission of course director required for non-M.P.H. students. Organizational structure, history, law, ethics, essential services, global problems, and the future of public health. Lecture, discussion, projects, and presentations.

# MPH 602 Social and Behavioral Sciences in Public Health (3-0-3).

*Prerequisite:* Graduate standing; permission of course director required for non-M.P.H. students. Theories of health education and promotion. Intervention (communication, collaboration, and strategies) including socio-cultural, diversity, and regional issues as they pertain to public health.

MPH 603 Epidemiology in Public Health (3-0-3). *Prerequisite:* Graduate standing; permission of course director required for non-M.P.H. students. Epidemiological methods, including study design, legal/ethical aspects and Epi information, applications of methods, including screening, disease surveillance, outbreak investigation, and community needs assessment. Student presentations to focus on special topics, such as infectious diseases, chronic conditions, and others.

**MPH 604 Biostatistics in Public Health (3-0-3).** *Prerequisite:* Graduate standing; permission of course director required for non-M.P.H. students. Principles of biostatistics in the context of multiple public health applications, Epi information, SAS, and JMP statistical packages to be used.

# MPH 605 Health Services Administration in Public Health (3-0-3).

*Prerequisite:* Graduate standing; permission of course director required for non-M.P.H. students. Management principles, including personnel administration, budgeting, financing, and continuous quality improvement as they pertain to public health, planning and evaluation principles, grant writing, public health economics, public health policy, and data sources.

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#### MPH 606 Environmental Health Sciences in Public Health (3-0-3).

*Prerequisite:* Graduate standing; permission of course director required for non-M.P.H. students. Air quality, water quality, food hygiene, sanitation, solid waste management, hazardous materials management, vector-borne disease, other special topics, occupational health, legal issues, environmental hazard identification, and response.

#### MPH 615 Clinical Teaching and Communicating Skills (4-0-4).

*Prerequisites:* MPH 601 and MPH 602; graduate standing in the M.P.H. program or permission of course director. Training in core skills relevant to teaching in clinical settings such as hospital wards, outpatient clinics, operating rooms, Grand Rounds conferences, and community-based clinics, including community health centers. Primarily designed for clinician-educators who wish to learn how to teach in a variety of settings. Participants are encouraged to share their expertise within the group, and contribute to core knowledge and skills pertinent to clinical and community health teaching.

MPH 620 Introduction to Clinical Research Skills and Scientific Writing (4-0-4). *Prerequisites:* MPH 603 and MPH 604; Graduate standing in the M.P. H. program or permission of course director. First in a series of clinical research courses designed to provide an in-depth overview of skills necessary to plan and conduct clinical research. Special emphasis is placed on identifying clinical research resources at the Cleveland Clinic and related sites, including research mentors; components of a written research proposal; study design and statistical considerations; specific methodologies such as cost-benefit studies and meta-analyses; and ethical and legal considerations of clinical research.

MPH 625 Clinical Research Management (4-0-4). *Prerequisites:* MPH 620; Graduate standing in the M.P.H. program or permission of course director. Hands-on, experiential sessions that focus on techniques for developing, testing, implementing, monitoring, and using a database in clinical research. Students learn to analyze and understand the essential structure and interactions of a clinical research team in accomplishing a research project. The course is designed for physicians and research scientists working in a clinical environment.

MPH 691 Grant Writing in Public Health Practice (4-0-4). Prerequisite: Graduate standing and permission of course director. Directed elective for M.P. H. students without grant writing experience. Taught using a combination of classroom and web-based instruction, this course provides methods and techniques for writing and managing grant proposals to support public health programs. Emphasis on development of grant proposals, including narrative, program plan, evaluation design, timeline, budget and budget justification, identification of grant sources, managing funded projects, and use and development of requests for proposals.

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#### MPH 695 Special Topics in Public Health (one to six credits).

*Prerequisite:* Graduate standing; permission of course director required for non-M.P.H. students. Selections focus on specific topics of current interest to public health workers. Fliers describing the section offering are distributed prior to registration each semester.

MPH 696 Public Health Practicum (three to six credits). *Prerequisite:* Graduate standing; permission of course director required for non-M.P.H. students. Student is teamed with a faculty advisor and community preceptor to work on a meaningful public health issue. For students who desire additional field experience.

#### MPH 697 Public Health Capstone Project (three to six credits).

*Prerequisites:* Graduate standing; MPH 601, MPH 602, MPH 603, MPH 604, MPH 605, and MPH 606. Student is teamed with a faculty advisor and community preceptor(s) to work on a meaningful public health issue. This work facilitates the integration of material from the core MPH courses. A paper (e.g. grant, study, proposal, etc.) demonstrating the applications learned in previous courses is required.

MPH 699 Independent Study in Public Health (one to four credits). *Prerequisites:* Permission of instructor. Supervised study of a public health issue or problem. Offered every semester.

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# about csu



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#### About CSU

#### THE UNIVERSITY

Cleveland State University is a state-assisted, urban university whose mission is to recruit and instruct a diverse student population; provide strong arts and sciences programs; support excellence in education; reaffirm its commitment to basic and applied research; and provide a supportive and nurturing educational environment for members of the community.

Cleveland State has over 16,000 students enrolled in over 70 undergraduate programs, 38 master's-level programs, two law degree programs, three specialist degrees (two in education and one in school psychology), six doctoral programs, and joint law-business, law-public administration, and law-environmental studies programs. The University also offers over a dozen graduate certificate programs. Approximately one third of Cleveland State's students are enrolled in graduate or professional programs.

The University's seven colleges are the College of Arts and Sciences, the James J. Nance College of Business Administration, the College of Education, the Fenn College of Engineering, the Maxine Goodman Levin College of Urban Affairs, the Cleveland-Marshall College of Law, and the College of Graduate Studies. Descriptions of the University's baccalaureate programs are contained in the Cleveland State University Bulletin: Undergraduate Catalog. Programs in the College of Law are described in the Cleveland-Marshall College of Law Catalog.

Other important academic divisions of the University are Continuing Education, which offers a variety of special, non-credit learning opportunities, and the Division of University Studies, which provides comprehensive academic and student support services, including orientation programs; academic advising; tutoring; assistance to students with disabilities; the English as a Second Language Program; mentoring services; and career development and planning.

Another program of interest is Project 60. This program, administered through the University Studies Advising Center, offers senior citizens the opportunity to take undergraduate and graduate courses on a tuition-free, noncredit, and space-available basis regardless of their academic backgrounds. Project 60 allows elders to sample undergraduate and graduate courses without being admitted formally to a degree program.

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#### **LOCATION**

Strategically located in downtown Cleveland, the University sits in the midst of major businesses and institutions that provide students with internships and other career opportunities. Nearby neighbors include The Plain Dealer (Ohio's largest newspaper), Playhouse Square Center (home of the Cleveland Ballet, the Cleveland Opera, the Great Lakes Theater Festival, and touring Broadway productions), Tower City Center, Jacobs Field, Gund Arena, and the North Coast Harbor, which is the home of the Rock and Roll Hall of Fame and Museum, the Great Lakes Science Center, and Cleveland Browns Stadium.

Within easy reach of the University are the Cleveland Clinic, Severance Hall (home of the Cleveland Orchestra), the Cleveland Museum of Art, the Cleveland Museum of Natural History, the Cleveland Play House (the oldest repertory theater company in the country to have a continuous existence), Karamu House (America's oldest African-American community theater company), and the Western Reserve Historical Society.

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#### STUDENT ASSESSMENT POLICY

Cleveland State University has an abiding commitment to the assessment of students' academic achievement (student outcomes) to provide excellent teaching in its undergraduate and graduate programs. Assessment occurs within colleges, departments, and programs, and all units adhere to the same institutional principles. Clear statements of learning objectives developed by the faculty provide the basis of the evaluation, and more than one assessment technique is generally utilized. Faculty use the information gained from assessment activities in program improvement. Students play a significant role in the assessment process at Cleveland State University. Assessment data

typically are gathered at three points in students' academic careers < at the start, midpoint, and conclusion of their studies. Faculty and students benefit from participating in assessment activities, and collectively these efforts keep the University mindful of, and responsive to, the needs of the community.

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#### SEXUAL HARASSMENT POLICY

It is the policy of the University that no member of the University community shall engage in sexual harassment. Sexual harassment is a form of sex discrimination that is both reprehensible and unlawful. It is contrary to the most fundamental ethical canons of the academic community. The University will not tolerate sexual harassment because it creates an unacceptable or injurious working or educational environment.

Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when: 1) submission to such conduct is made either explicitly or implicitly a term or condition of instruction, employment, or participation in any University activity; 2) submission to or rejection of such conduct by an individual is used as a basis for evaluation in making a decision affecting instruction, employment, or other University activity; 3) such conduct has the purpose or effect of unreasonably interfering with an individual's academic or work performance or creates an intimidating, hostile, or offensive University environment.

Copies of the University policy, including complaint procedures, may be obtained from the Affirmative Action Office, the Office of Minority Affairs and Community Relations, the Department of Student Life, and the Department of Human Resources Development and Labor Relations. The Director of Affirmative Action has primary responsibility for the investigation and resolution of sexual harassment complaints.

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#### **HISTORY**

Established as a state-assisted university in 1964, Cleveland State was created out of the buildings, faculty, staff, and curriculum of the former Fenn College, a private institution of 2,500 students that was founded in 1929.

Cleveland State University's historical roots go back to the 19th century.

During the 1880s, the Cleveland YMCA began to offer day and evening courses to students who did not otherwise have access to higher education. The YMCA program was reorganized in 1906 as the Association Institute, and this in turn was established as Fenn College in 1929. A significant contribution of Fenn College was its pioneering work in developing internships for students in engineering and business. These internships, as joint ventures between the college and local businesses and industries, provided students with professional contacts and experience as well as an affordable education. The historic Fenn Tower still stands as a reminder of these early years, when the University already had a strong commitment to equal access to higher education.

The Cleveland-Marshall College of Law traces its origins to 1897 when the Cleveland Law School was founded. It was the first evening law school in the state and one of the first to admit women and minorities. Another evening law school, John Marshall School of Law, was founded in 1916. In 1946, the two schools merged to become the Cleveland-Marshall School of Law. Cleveland-Marshall became part of Cleveland State University in 1969.

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#### EVENING & WEEKEND CLASSES

Most graduate degree programs are available in the evening. During a typical term, more than 5,500 undergraduate and graduate students attend the hundreds of classes offered during the late afternoon and evening hours. Many classes meet once a week or on Saturdays, providing other scheduling alternatives.

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#### **ACCREDITATION**

NCA Accreditation: Cleveland State University is accredited by the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools (NCA). North Central Association of Colleges and Schools, Commission on Institutions of Higher Education, 30 North LaSalle Street, Suite 2400, Chicago, Illinois 60602-2504, (800) 621-7440.

In addition, individual Cleveland State degree programs hold the following professional accreditations:

**Business Administration:** B.B.A. and M.B.A. programs of the James J. Nance College of Business Administration are accredited by AACSB International, the Association to Advance Collegiate Schools of Business. In a separate accrediting process, the graduate and undergraduate programs in accounting are accredited by the AACSB. The Health Care Administration program is accredited by the Accrediting Commission on Education for Health Services Administration (ACEHSA).

**Chemistry:** The Chemistry Department's undergraduate curriculum is approved by the American Chemical Society. Its clinical chemistry Ph.D. program is accredited by the Commission on Accreditation in Clinical Chemistry (ComACC).

**Education:** The College of Education is accredited by the Ohio Department of Education and the National Council for Accreditation of Teacher Education (NCATE). The Community Agency Counseling program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

**Engineering:** The bachelor's degree programs in Chemical, Civil, Electrical, Industrial, and Mechanical Engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. The Bachelor of Science in Electronic Engineering Technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. Graduate programs in engineering are reviewed through regular self-study and by other state/OBOR agencies.

**Law:** The College of Law is accredited by the American Bar Association and is a member of the Association of American Law Schools.

**Music:** The graduate and undergraduate Music Department curricula are accredited by the National Association of Schools of Music.

**Nursing:** The Nursing Department curriculum is fully accredited by the National League for Nursing Accreditation Commission (NLN-AC).

**Occupational Therapy:** The curriculum in Occupational Therapy is accredited by the Accreditation Council of Occupational Therapy Education.

**Physical Therapy:** The curriculum in Physical Therapy is accredited by the Commission on Accreditation in Physical Therapy Education.

**Public Administration:** The Master of Public Administration curriculum is accredited by the National Association of Schools of Public Affairs and Administration. **Social Work:** The Department of Social Work curriculum is fully accredited at the undergraduate and graduate levels by the Council of Social Work Education (CSWE).

**Speech and Hearing:** The academic and clinical program in Speech-Language Pathology is accredited by the American Speech-Language and Hearing Association (ASHA). The graduate academic program is accredited by the Council on Academic Accreditation (CAA), and the clinical program is accredited by the Professional Services Board (PSB).

**Urban Planning, Design, and Development:** The Master of Urban Planning, Design, and Development curriculum is accredited by the Planning Accreditation Board.

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#### AFFIRMATIVE ACTION POLICY

Cleveland State University is committed to the principles of equal employment and educational opportunity for all individuals and to the development and implementation of results-oriented procedures and programs to enhance access and opportunity for minorities and women, persons with disabilities, and Vietnam-era veterans. The Board of Trustees has charged everyone associated with the University to support and implement these procedures and programs and to participate in achieving their maximum success.

The Affirmative Action Office is responsible for the administration of the University's equal opportunity and affirmative action policies and procedures. Through formal and informal procedures, the Affirmative Action Office is primarily responsible for the investigation and resolution of all complaints of unlawful discrimination including complaints of sexual, racial, and any other types of unlawful harassment. The Affirmative Action Office seeks to achieve a fair and prompt resolution of discrimination complaints and takes appropriate action when necessary. The Affirmative Action Office works cooperatively with departments and units to provide training and information on unlawful discrimination and affirmative action issues to increase awareness of these issues throughout the University community and promote the full participation, well-being, and equitable treatment of all students, faculty, and staff, regardless of age, race, color, religion, national origin, ancestry, sex, sexual orientation, disability, or Vietnam Veteran's status.

The Affirmative Action Office is located in Fenn Tower, Room 811; telephone (216) 687-2223.

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#### ACADEMIC CALENDAR

Fall Semester 2002	
DATE	ACTIVITY
August 26	Classes begin
August 30	Last day to add
September 2	Labor Day (University closed)
September 6	Last day to drop
October 14	Columbus Day (University closed)
November 1	Last day to withdraw
November 11	Veterans' Day (no classes)
November 28-29	Thanksgiving recess
December 7	Last day of instruction
December 8	Reading period
December 9-14	Final examinations

Spring Semester 2003		
DATE	ACTIVITY	
January 13	Classes begin	
January 18	Last day to add	
January 20	Martin Luther King Day (University closed)	
January 24	Last day to drop	
February 17	President's Day	
March 9-16	Spring recess	
March 17	Classes resume	
March 28	Last day to withdraw	
May 3	Last day of instruction	
May 4	Reading period	
May 5-10	Final examinations	

<b>Summer Session A</b>	2003
DATE	ACTIVITY
May 19	Classes begin
May 26	Memorial Day (University closed)
June 26	Last day of instruction
June 27	Final examinations

<b>Summer Session B</b>	2003
DATE	ACTIVITY
June 30 July 4	Classes begin Independence Day (University closed)
August 7	Last day of instruction
August 8	Final examinations

#### **Summer Session C 2003**

This session includes all courses that do not fall into either Session A or B. Courses that are more than six weeks in length will have the same start date as Session A. For example, an eight-week course in the 2002-2003 academic year would begin on May 19 and end on July 11, 2003.

Fall Semester 2003	
DATE	ACTIVITY
August 25	Classes begin
August 29	Last day to add
September 1	Labor Day (University closed)
September 5	Last day to drop
October 13	Columbus Day (University closed)
October 31	Last day to withdraw
November 11	Veterans' Day (no classes)
November 27-28	Thanksgiving recess
December 6	Last day of instruction
December 7	Reading period
December 8-13	Final examinations

Spring Semester 2004		
DATE	ACTIVITY	
January 19	Martin Luther King Day (University closed)	
January 20	Classes begin	
January 26	Last day to add	
January 30	Last day to drop	
February 16	President's Day	
March 14-21	Spring recess	
March 22	Classes resume	
April 2	Last day to withdraw	
May 8	Last day of instruction	
May 9	Reading period	
May 10-15	Final examinations	

<b>Summer Session A</b>	2004
DATE	ACTIVITY
May 24	Classes begin
May 31	Memorial Day (University closed)
July 1	Last day of instruction
July 2	Final examinations

<b>Summer Session B</b>	2004
DATE	ACTIVITY

July 4 Independence Day (University closed)

July 6 Classes begin

August 12 Last day of instruction August 13 Final examinations

#### Summer Session C 2004

This session includes all courses that do not fall into either Session A or B. Courses that are more than six weeks in length will have the same start date as Session A. For example, an eight-week course in the 2003-2004 academic year would begin on May 24 and end on July 15, 2004.

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CTR FOR ENVIRONMENTAL

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**CLEVELAND CTR FOR MASS** 

**SPECTROMENTRY** 

**CSU DNA ANALYSIS CENTER** 

BIOMEDICAL & HEALTH

**INSTITUTE (BAHI)** 

LABOR MANAGEMENT

**RELATIONS CTR** 

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-CENTERS

#### **Educational Resources**

#### RESEARCH FACILITIES

Research, both basic and applied, is central to the University's mission for it is widely accepted as an integral part of graduate and professional education. The purpose of research is to advance existing knowledge in a discipline, subject area, or field; to fill significant gaps in such knowledge; to devise new modes or means of expression; and to develop new perspectives in the sciences, arts, and humanities. Faculty at Cleveland State University continue to build a solid reputation for quality research by attracting highly qualified graduate students and by garnering significant new external research funding. The University maintains that research and teaching are not only symbiotic but are also the focus of quality graduate education.

To encourage student and faculty research, the University provides a complete range of support facilities, including a University Library with a strong emphasis on computerized information services, microcomputer and mainframe computer access laboratories, and specialized research facilities in the academic departments. Descriptions of specialized equipment and major analytical instrumentation facilities are included under the headings of the respective graduate programs.

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#### RESEARCH COLABORATIONS

The University maintains a variety of research links with the Cleveland community. Several local businesses and institutions share financial resources, personnel, and/or facilities with Cleveland State faculty and students for the purpose of research. The University's ties to the institutions below further enhance specific graduate degree programs:

- The Cleveland Clinic Foundation's Lerner Research Institute is an equal partner in the research offerings and administration of three Cleveland State University doctoral programs: the Ph.D. in Regulatory Biology, the Ph.D. in Clinical-Bioanalytical Chemistry, and the Doctor of Engineering specialization in Applied Biomedical Engineering. This strategic inter-institutional partnership provides doctoral students with access to major analytical instrumentation facilities in biochemistry, immunology, and molecular biology, as well as to the federally funded laboratories of world-renowned scientists.
- The NASA-Glenn Research Center annually sponsors more than \$7 million in basic and applied research at Cleveland State, while the University provides off-campus graduate programs in engineering and computer and information science at the Center.
- The Cleveland MetroHealth Medical Center is a partner with Cleveland State University in the education of graduate students in the speech pathology program, as well as in the Clinical-Bioanalytical Chemistry Ph.D. program.
- A formal agreement with Case Western Reserve University provides
  for collaboration in the areas of biomedical research, development of
  cooperative doctoral and professional graduate programs, faculty
  enrichment opportunities, membership for Cleveland State in the Edison
  Biotechnology Center, and joint development of the Institute for Urban
  Health. The agreement also establishes reciprocal library privileges for
  faculty and students at both universities.

The Advanced Manufacturing Center, the Labor-Management Relations Center, the Urban Child Research Center, and a variety of initiatives housed in the Levin College provide additional collaborative research opportunities with area corporations and organizations. Further information on these centers can be found at the end of this chapter.

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#### UNIVERSITY LIBRARY

#### **Library Collections and Services**

The University Library supports Cleveland State's instructional and research programs through resources and services made available to students both inhouse and over the Internet. Located on the first five floors of Rhodes Tower, the Library contains more than 900,000 volumes of print resources, 7,200 serial subscriptions (both online and in-print), over 100 online research databases, 670,000 microforms, and substantial holdings of sound recordings, curriculum materials, art slides, films, videotapes, and multimedia products. The Library provides over 125 public computers connected to the Internet for access to online resources to conduct research. Information regarding library holdings is available online through SCHOLAR from any computer via the Internet at scholar. csuohio.edu/. An Adaptive Technology Lab is also available in the Library where students with disabilities will find hardware and software programs especially designed for their use.

The Library facilitates the integration of information technology into the instructional program by offering information literacy seminars, Internet training, course-related instruction when requested by faculty, and research assistance to students and faculty. Subject librarians are available to instruct graduate students on research methodology in their disciplines and to get them started with research projects. Students may visit the Reference Center for assistance at any time the Library is open. An appointment can be made with a subject librarian by visiting the Reference Center or by calling (216) 687-5300. When classes are in session, library hours are typically Monday through Thursday, 7:30 a.m.-9:30 p.m.; Friday, 7:30 a.m.-5 p.m.; Saturday, 11 a.m.-5 p. m.; and Sunday, noon to 6 p.m. Changes to hours are posted in the Library and on the Library's web page at www.ulib.csuohio.edu/hoursq.html.

#### **Electronic Information**

Providing access to information 24 hours a day, to users both on and off campus, is a high priority. The University Library implemented the first Electronic Course Reserve service in Ohio. This service provides the full text of selected reserve materials online both from inside the Library or remotely from any computer with Internet access. The Library also makes information resources and services available from its home page at www.ulib. csuohio.edu. This page provides links to a multitude of web sites via the Electronic Reference page or the various Subject Portals, which offer quick links to research resources. Although a partial depository for printed federal government documents, much government information is available online from the Political Science Subject Portal. Distance learners are further served from the Distance Learning web page at: html.ulib.csuohio.edu/de/.

#### Resource Sharing, OhioLINK, and Beyond

The University Library's in-house collections are complemented by retrieval and delivery services made possible through resource sharing networks, traditional interlibrary loan, document delivery, and OhioLINK. OhioLINK, a statewide academic network reporting to the Ohio Board of Regents, provides the Cleveland State community with access to 31 million library items statewide. Through its retrieval and delivery services, OhioLINK delivers print materials upon request to other libraries within a few days. Other services also are available that can provide users with access to information from sources around the world, often in a matter of days, sometimes quicker.

#### **Special Collections**

Special Collections at Cleveland State University Library focus on primary research materials for the study of the economic, cultural, social, and political history of Cleveland, Northeastern Ohio, and the Great Lakes region. Of special interest are the Cleveland Press Collection, the Cleveland Union Terminal Collection, the Watson Bridge Collection, the Great Lakes Industrial History Collection, and the Sacred Landmarks of Cleveland Collection. The Cleveland Memory web site at www.clevelandmemory.org represents a major effort to digitize these collections. Additional information about the Library's Special Collections is available on the Library's Special Collections web page at web.ulib.csuohio.edu/SpecColl/.

#### **University Archives (Rhodes Tower, Room 320)**

The archives are the University's official repository for records, publications, audio-visual materials, and artifacts pertinent to Cleveland State's history and development. Materials are available to users under controlled conditions and are non-circulating. The archives' electronic indexes to the meeting minutes of the University Board of Trustees, Faculty Senate, and Graduate Council are available to users through the Internet at www.csuohio.edu/udc/.

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#### LAW LIBRARY

The Law Library has a strong tradition of service designed to meet the research and instructional needs of students and faculty. The Law Library's service mission is supported by a collection of nearly 500,000 volumes, a federal government document depository, 3,100 periodical subscriptions, and an array of on-line research tools, including numerous legal and general databases, CD-ROM titles, the OhioLINK catalog and database sources, and Internet resources. These resources, with interlibrary loan arrangements and cooperative resource-sharing through the Ohio Regional Consortium of Law Libraries, provide Law Library users with access to a wide spectrum of legal research materials.

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#### INFORMATION SERVICES & TECHNOLOGY

The Department of Information Services and Technology (IS&T) is maintained by the University as an educational and research facility for its faculty, staff, and students; additionally, it supports the data-processing requirements of the administrative offices at Cleveland State.

#### SERVICES FOR STUDENTS

Through the use of technology, students can explore faster and better ways to find books, do research with the Internet, and communicate with others around the world. The following is a brief description of the many services that are available to students.

**CSU Web Site:** (www.csuohio.edu) Cleveland State University has a web site full of useful information. Anyone who has a personal computer, a modem, and access to the Internet also has access to information about the University. General data about the University is available to everyone. In addition, each student has access to VIKing, a secured system that provides grades, transcripts, course offerings, and more.

A wide variety of information is available on the web site, including an international student guide, a student admissions guide, a campus map with photos of all buildings, directories on how to reach Cleveland State and where to park, and even weather information. In addition, each college has its own home page, which includes a general description, course offerings, faculty members, special programs, and more. Many individual departments and professors also have web pages.

#### **USEFUL WEB SITES:**

- Resources for classes, research, etc. www.csuohio.edu/ats/stu.html
- CSU HelpDesk www.csuohio.edu/helpdesk/
- Computer Labs equipment & hours, etc. www.csuohio.edu/ats/ campuslabs
- IS&T Info/Services www.csuohio.edu/ist

**Internet Access:** Cleveland State students may set up an Internet Access account that provides 120 hours of free dial-up Internet access per month.

Students can set up their Internet account by logging into the VIKing system and selecting "Create Internet Account." To use the Internet account, a network and dial-up connection needs to be added to the student's home computer. Instructions on this are available online at www.csuohio.edu/iap/ (select the "Make a New Connection" link at the bottom), or on paper from RT 1104. Students can also contact the HelpDesk at (216) 687-5050 for instructions.

The Internet Access account logon ID is the student's Cleveland State ID number. The password is the VIKing password at the time the Internet account is created.

#### INTERNET-RELATED SOFTWARE

IS&T provides free virus-scanning software, as well as several freeware packages through Internet Access Pack (IAP). Students can get IAP free by downloading it from the web site at www.csuohio.edu/iap. Also, a copy of the software can be purchased for a nominal fee (or mailed for slightly more) on CD.

**Electronic Mail (E-mail):** Every currently registered Cleveland State student<part-time, full-time, graduate, undergraduate, and law<has an account on the campus e-mail system.

For help accessing e-mail, call the HelpDesk at (216) 687-5050 or visit the web site www.csuohio.edu/helpdesk and follow the links.

E-mail is available from any PC, anywhere. Web access to e-mail is available from a link on the Cleveland State home page or by visiting www.csuohio.edu/email. E-mail also can be accessed via Outlook, Outlook Express, or Eudora. The student labs have Eudora installed and can run e-mail. Instructions for using Eudora and Outlook are available from the CSU HelpDesk web page at www.csuohio.edu/helpdesk.

VIKing: VIKing is a user-friendly student information system available for students. Access to VIKing is available from any computer with an Internet connection, including home computers, on-campus VIKing Kiosks, and campus networked computers. The Internet address for the VIKing system is www.csuohio.edu/viking. Current Kiosk locations on campus include Student Center first, second, and fourth floors, Main Library, the College of Business, the bookstore, and Main Classroom.

VIKing provides commonly requested student information. A student may view and print his or her Bursar's account balance, registration schedule and course list, financial aid award amount, student record information, transcript, and personal information, such as address, e-mail address, etc. The VIKing system is accessible with the student's Cleveland State ID and VIKing password. When a student first enters the University, he or she receives a letter providing the VIKing password.

**General Purpose Labs:** Student labs are available across the campus. General Purpose Labs are located in Rhodes Tower 403 (in the Main Library), Stilwell Hall 128, and Main Classroom 446. The General Purpose labs allow free printing.

In the labs, students can use software such as the current Microsoft Office suite of products, and SAS and SPSS statistical software, search the Internet, and check e-mail. Lab Monitors are available to answer questions and help with problems.

In addition, many colleges also maintain student labs. For a current listing including equipment and hours visit www.csuohio.edu/ats/campuslabs/.

To use the labs, students need to sign in using their campus CSU-NET access account. The CSU-NET access account name is the Cleveland State ID number. The lab monitor can help students identify and use their account names and passwords.

**Microsoft Office:** Through a special contract with Microsoft, the University offers a significant discount on most Microsoft products to students, staff, and faculty. For information about available products, contact the HelpDesk at (216) 687-5050. Microsoft special deals include Microsoft Office (Word, Excel, Access, Outlook, and PowerPoint) and Front Page, as well as other specialized products.

#### **LAPTOPS ON CAMPUS**

Students wanting to use their laptop to connect to the Internet on campus need three things:

- 1. An Ethernet card set-up for the Cleveland State environment. Instructions are available in labs and RT 1104
- 2. A CSU-NET account (available from lab monitors and the HelpDesk
- 3. A port to plug into available in each General Purpose Lab, the University Library, the Law Library, and areas of the Levin College of Urban Affairs

**Software Training:** Online training on many software topics, such as Word and Excel, is available on CD to students, staff, and faculty. CDs each containing several courses can be purchased for a nominal fee by contacting (216) 687-2182 or visiting RT 1104 during regular work hours. For a list of currently offered programs, see the web site at www.csuohio.edu/training.

**HelpDesk:** The HelpDesk at (216) 687-5050 provides technical and software

assistance to students, staff, and faculty. The HelpDesk can help with Internet access, e-mail, and many other problems.

#### Contact the HelpDesk by:

- Visiting the web site at www.csuohio.edu/helpdesk,
- Visiting RT 1104,
- E-mailing a question to help.desk@csuohio.edu, OR
- calling (216) 687-5050.

HelpDesk walk-in hours during fall and spring semesters are 8 a.m. to 5 p.m., Monday through Friday. Phone hours are 7:30 a.m. to 7 p.m., Monday through Thursday; 7:30 a.m. to 5:30 p.m., Friday; and 9 a.m. to 1 p.m., Saturday. Check the web site for vacation, holiday, and summer hours.

#### **SYSTEM NEWS**

IS&T maintains a phone line - (216) 687-5252 < with a recording listing any current system outages. The System News line is updated each weekday.

#### MASS MAILINGS

When the University needs fast communication with students, IS&T sends a mass e-mail message. These messages help students keep in touch with campus events. See the online information for details - link from www.csuohio.edu/ist.

#### **DISTANCE LEARNING**

Some classes use WebCT to enhance or replace traditional classrooms. Each professor using WebCT or other web-accessed course materials will provide students with directions for access and use.

#### IS&T COMMUNICATIONS - askcio & info@csuohio.edu

IS&T provides a bi-monthly newsletter online at www.csuohio.edu/ist/info. htm. When students have specific questions, they can send an e-mail directly to the IS&T chief information officer at ask.cio@csuohio.edu.

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#### CENTER FOR TEACHING AND LEARNING

The Center for Teaching and Learning provides training and assistance to faculty and teaching assistants to bring improved and innovative teaching methods to the classroom. Goals of the center include helping instructors achieve effective teaching styles, incorporating innovative technologies into classrooms, and improving student learning and comprehension by means of more participative and interactive teaching methods. The center conducts workshops on various topics and administers the Teaching Enhancement Award Program. For additional information, contact Dr. William A. Beasley, Director of the Center for Teaching and Learning, Rhodes Tower, Room 203, telephone (216) 687-5583.

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#### INSTRUCTIONAL MEDIA SERVICES

Instructional Media Services (IMS) is primarily devoted to assisting Cleveland State faculty with the development, production, and utilization of media materials and facilities. Experienced IMS staff work closely with faculty members in the planning and development of quality materials for the enhancement of teaching. IMS also provides cutting-edge equipment and facilities.

Services include 1) media consultation with emphasis on creative applications of media in the teaching-learning process; 2) production of goal-specific media materials; 3) media equipment loan with or without operator assistance; 4) use of lab, microteaching, and distance-learning facilities; 5) maintenance and repair of media equipment and installations; 6) distribution of media programming through the University's instructor-controllable media-retrieval system; and 7) satellite teleconferencing.

IMS offers a full range of production services: original artwork and computer graphics, including design and illustration for research and publication; broadcast-quality audio and video production; slides, prints, and transparencies; display materials; and multimedia presentations.

For loan purposes, IMS holds an inventory of portable media equipment, including video camcorders, video monitor or playback equipment (3/4> and VHS), computer LCD displays, etc.

IMS maintains and repairs over 80 media installations on the Cleveland State campus and is responsible for transmitting all types of media programs to approximately 20 classrooms via the media-retrieval system.

In addition, IMS manages facilities for the use of media materials. The IMS Media Lab provides Cleveland State students with a facility and the equipment

for individualized and small group use of instructional media materials. The lab is equipped with various kinds of audio and video equipment. In addition, instructors may place materials on reserve in the lab for student review outside of class.

IMS also offers microteaching rooms and "Smart Rooms" equipped for distance learning.

The IMS Main Office is located in Rhodes Tower, Room 801. Equipment loan centers are located in Rhodes Tower, Room 705, and the Main Classroom Building, Room 201A. The IMS Media Lab is located in Rhodes Tower, Room 31 (ground level).

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#### STUDENT SERVICES & ACTIVITES

The Division of Student Affairs and Minority Affairs is committed to "supporting the total development of each and every student so that they achieve their educational goals in a satisfying way." The Division offers a wide array of programs, services, and activities to support students. Staff professionals focus on the whole student and his or her development as it pertains to the educational process. Providing a supportive educational environment that enhances student satisfaction is central to the mission of the Division, and students are kept at the center of decision making.

A partial list of Division services of value to graduate students includes Student Life programming, activities, organizations, publications, leadership development, wellness education, and volunteer opportunities; college enrichment courses and tutoring; the Career Services Center; the Office of Services to Persons with Disabilities; the Counseling and Testing Center; and University Health Services. (More information on many of these services can be found elsewhere in this Catalog).

Student leaders meet with the President and Vice President of Student Affairs and Minority Affairs on a monthly basis and serve on administrative committees and task forces. Two student representatives sit on the University Board of Trustees.

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#### STUDENT LIFE

The Department of Student Life provides quality services and programs to enhance the University experience of students. The Department of Student Life is located in the University Center (UC), Room 102; telephone (216) 687-2048. The following areas function under Student Life:

#### **Student Organizations**

More than 100 recognized student organizations provide students with opportunities for involvement, skill development, leadership, decision making, and networking experiences. Organizations are open to all students and cater to a variety of interests including social, political, religious, professional, educational, and recreational.

#### **Leadership Programs**

Leadership Programs equip both emerging (new) and established student leaders with the skills and tools needed to excel in their positions. Programs range from hour-long roundtables to full-day retreats and include such topics as leadership styles, communication, group dynamics, and running effective meetings, among others. Leadership Certification is available to students who attend at least 16 roundtables over the course of the year. In addition, a free Leadership Consultation Service for student groups as well as a wide variety of other leadership resources are available.

#### **Campus-Wide Programming**

Students, faculty, and staff are provided with a wide array of campus-wide programs to attend throughout the year, including social events, lectures, and celebrations. Programs co-sponsored by the Department of Student Life, the Campus Activities Board, and other campus departments/groups include Welcome to CSU Week, Springfest, the Holiday Celebration, the Sunset Series for evening students, Black Aspirations Celebration, and many more.

#### **Judicial Affairs**

The Judicial Affairs Office exists to provide a safe environment for the entire campus community. Through the Trustee-approved Student Conduct Code, students involved in misunderstandings with other students, faculty, staff, or administrators can discuss informal and formal resolution options. The Student Conduct Code thoroughly explains the due process procedures for incidents that violate University policies. A copy of the Code is available in the Department of Student Life, located in UC 102.

#### **Wellness Center**

The Wellness Center provides educational enrichment programs and initiatives aimed at improving the quality of students' lives. The Wellness Center collaborates with University and community agencies to provide information

about health issues of importance to the campus community including: alcohol and other drug use, sexual health, healthy relationships, stress reduction, nutrition, fitness, and eating disorders. Students may visit the Wellness Center for health education and prevention information, for resources on health-related issues, for education about contemporary wellness issues, and for peer education opportunities.

#### **Volunteer Center**

The Department of Student Life Volunteer Center has been designed to serve as a campus-wide clearinghouse for volunteerism, community service, and service learning opportunities available to all Cleveland State University students, faculty, and staff. The primary goal is to assist members of the University community in developing or strengthening their interest in serving others. The Volunteer Center Consultation Service assists individual students, faculty, or staff in developing custom volunteer opportunities that mesh with academic/personal interests as well as schedules. To learn more about short-term or long-term volunteer opportunities, review the Volunteer Directory in UC 102, attend a Volunteer Fair, see the Volunteer Bulletin Board (UC first floor by elevators), or phone (216) 687-2048.

#### **Student Government**

The CSU Student Government Association provides an open forum for students to formulate their beliefs and voice their concerns to the University Board of Trustees, administration, and faculty. Student Government is structured as the Executive Branch (president, vice-president, treasurer, secretary) and the Legislative Branch (22 senators elected to represent each class and each college at Cleveland State). Elections are held during the spring term, except for the freshman senator election, which is held during the fall term. Student Government offices are located in University Center, Room 160 A (Green Lounge), phone (216) 687-2262.

#### **Student Publications**

Student publications provide students with excellent opportunities to experience writing for and editing a newspaper or literary magazine. The publications include: The Cauldron, published weekly and pledged to provide information and opinions about the campus, Cleveland community, and beyond [phone (216) 687-2270]; The Vindicator, published once a month with special interest in presenting the news as it relates to multicultural issues and diversity [phone (216) 687-2118]; Whiskey Island Magazine, a literary magazine published two to three times a year, featuring selected prose, poetry, graphic arts, and photography [phone (216) 687-2056]; The Gavel, published six times per year by and for the interest of students enrolled in the Cleveland-Marshall College of Law [phone (216) 687-4533].

#### **WCSB Radio Station**

WCSB is a University-owned, 1,000-watt, non-commercial, student-run radio station. It is located at 89.3 FM on the radio dial and offers a wide variety of programming. Students are afforded the opportunity to learn, develop, and

refine skills involved with radio operation and performance and to provide the community with alternative programming [phone (216) 687-3523].

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#### VIKING CARD

New Cleveland State students may obtain an identification card that is valid for as long as they attend the University. To obtain a card, a student must present his or her current semester registration schedule and driver's license to the VIKINGCARD Office, located in University Center, Room 272B.

Normal office hours are:

Monday-Thursday-Friday 8 a.m.-5 p.m. Tuesday-Wednesday 8 a.m.-6 p.m.

Visit the web site at www.csuohio.edu/vcard for updates.

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#### UNIVERSITY STUDIES ADVISING CENTER

The University Studies Advising Center, an office within the Division of University Studies, provides academic support services for first-year undergraduate students. These services include advising, orientation programs, mentoring, and registration services.

The University Studies Advising Center is located in University Center, Room 500. The Center's hours are Monday through Thursday, 8 a.m. to 6 p.m., and Friday, 9 a.m. to 5 p.m. The Center is open on the first Saturday of classes each semester. Other times are by appointment. For further information on services and/or programs, contact the University Studies Advising Center by phone at (216) 687-2402 or by e-mail at usadvising@popmail.csuohio.edu.

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#### **COUNSELING AND TESTING CENTER**

Cleveland State University offers a wide range of counseling services to students. The licensed counselors and psychologists who staff the Counseling

Center help students with the following matters: selection of majors, study skills, vocational choice, blocks to learning, personal concerns, stress management, test anxiety, assertiveness, relationship concerns, drug and alcohol dependence, sexual issues, and relaxation training. Support groups and workshops are offered on many of these topics.

Testing services include interest, ability, and personality tests. Widely used entrance examinations, such as the C.L.E.P. and PRAXIS examinations, the Miller Analogies Test, and many others, are given. Test scoring for faculty for courses also is available.

Counseling services are offered free of charge to students. Faculty and staff are seen for assessment and referral. Appointments can be made for both day and evening hours by calling (216) 687-2277, or by visiting the Counseling Center located on the second floor balcony in University Center, Room 254B.

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#### **CAREER SERVICES CENTER**

The Career Services Center, located on the second floor of Rhodes Tower West, provides graduate students and alumni with advice on career direction and assists them in the career development process. The Career Services Center offers the programs listed below. For more information, visit the Career Services web site at www.csuohio.edu/career/.

**Placement.** The Career Services Placement Office provides career development and implementation programs to graduate students in all academic areas. All full-time and part-time graduate students are eligible to register for assistance at no cost.

Student access to the employment community through the Placement Office includes:

- Over 100 employers who recruit on campus
- 300 companies that participate in on-campus career fairs and programs
- Over 500 companies that post employment opportunities

Placement services also include:

- An interview program
- VikingNET online system that enables students to learn about employment opportunities
- Individual career counseling

The Career Resources Library contains career reference materials that include industry and corporate directories, information and literature on over 1,000 companies, a videotape collection on career and professional development, and a collection of publications concerning career assistance. The library also contains a complete reference section on job notices and internships.

**Cleveland Connection.** The Greater Cleveland Connection offers students an opportunity to do intern/volunteer work for organizations and businesses in the community. The Cleveland Connection complements classroom work, allowing students to learn specific skills while testing different career options.

**Job Location and Development.** Job Location and Development is a federally funded program to help all Cleveland State University students find part-time and seasonal work while still in school. Career Services coordinators assist students who register with the Job Location and Development Office.

**Career Development.** One-to-one career development counseling is available to all graduate students.

**DISCOVER.** This is a computer-based career guidance system. Students can access information on over 450 occupations in order to learn which careers are best suited to their interests, abilities, and values. DISCOVER is comprehensive, easy to use, and provides up-to-date information. Counseling is available to complement the DISCOVER program.

**Cooperative Education.** Students in the co-op program can choose either part-time or full-time alternate semesters of paid, career-related employment that allows them to apply academic theory to on-the-job problems. In addition to enabling students to gain practical, career-related experience in a field, the co-op experience can assist in financing graduate studies.

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#### **ON-CAMPUS EMPLOYMENT**

#### **Student Employment**

Student employment is part of the Career Services Center. The Student Employment Office is located in Rhodes Tower West, Room 280; telephone (216) 687-2233.

#### **On-Campus Opportunities**

Excellent opportunities exist for part-time student employment on campus. Students employed on campus can develop valuable skills and have the convenience of working flexible hours. Both federal work-study and non-work-study positions are available. Jobs are posted on the Career Services Center

home page (www.csuohio.edu/career/index.html) and on boards on the plaza level of Rhodes Tower West, in Viking Hall, and in University Center. Students should consult these job boards for current openings and contact the hiring department for additional information.

#### **Off-Campus Opportunities**

Community Service Learning is a federal work-study, off-campus program. Students are paid to assist in community service agency-related activities throughout Greater Cleveland. America Reads is a federal work-study, off-campus program. Cleveland State students are placed as reading tutors in Cleveland-area elementary schools.

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#### WOMEN'S COMPREHENSIVE PROGRAM

The Women's Comprehensive Program (WCP), located in University Center, Room 363, enriches campus life through a series of lectures and cultural events pertinent to women. The WCP's Re-Entry Women's Project offers a range of services for women, including a series of orientation sessions for students whose educational goals have been delayed or deferred.

The WCP also administers an undergraduate interdisciplinary major and minor in Women's Studies and a course on "Women in Corporate America" in conjunction with the Cleveland business community. A roster of Women's Studies courses that can be taken for graduate credit is available from the WCP Office.

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#### A MESSAGE FROM THE PRESIDENT

Welcome to Cleveland State University, and thank you for your interest in our graduate and advanced programs. Whether your interest is in one of our doctoral or master's degree programs, a graduate or professional certificate program, or you simply wish to take a few graduate courses on a non-degree basis, you will find your experience at Cleveland State University to be intellectually stimulating as well as professionally rewarding.



We believe that we change lives at Cleveland

State, and, in so doing, contribute to the intellectual and economic growth of our region. Our goal is to answer students' ever-changing intellectual and professional needs and prepare them fully for the workplace of the 21st century. This may be why we have the highest percentage of graduate and professional students of any of Ohio's public universities: fully one-third of our entire student body is enrolled in our challenging graduate programs of study.

Our graduate students contribute vast life experience and maturity, as well as cultural and ethnic diversity, to make our campus an exciting learning environment. In the breadth and depth of our graduate programs, you will meet a faculty that is first-rate by every academic standard. They will welcome you as partners into their projects and research. We also are committed to being the model for a modern urban university, relating to the surrounding region as classroom, laboratory, and field station. Faculty, students, and community work together to achieve the goal of excellence in performance and accomplishment.

In the pages that follow you will find brief descriptions of our graduate and professional programs. If you have a career direction or academic goal clearly in mind, then I encourage you to apply to the graduate program most suited to your interests and to make an appointment to meet with that unit's graduate program director. If you are uncertain about your interests or about which program might best serve your academic needs, please contact the Graduate College Office. The Graduate Dean and the Graduate College staff are prepared to explore with you the best possible fit between your

personal goals and our graduate offerings. Our faculty and staff welcome the opportunity to discuss with you how your interests in advanced studies might best be accommodated by the programs we offer.

Best wishes for success in your studies at Cleveland State University.

Michael Schwartz

President

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#### Mailing Address

Cleveland State University College of Graduate Studies 2121 Euclid Avenue Parker Hannifin Hall 218 Cleveland, OH 44115-2214

#### **Campus Location**

Parker Hannifin Hall, Room 218 2258 Euclid Avenue

Phone: 216.687.9370 Fax: 216.687.9214

Web Content Contact Charles Newton

grad@csuohio.edu

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## ADMISSION EXAMINATION REQUIREMENTS FOR INTERNATIONAL STUDENTS

GRADUATE DEGREE PROGRAM	EXAMINATION	SCORE REQUIREMENT
Accountancy	GMAT	See program description
Biology (M.S. and Ph.D.)	GRE	General plus Subject (Biology or Biochemistry); No minimum required*
Business Administration (M. B.A. and D.B.A.)	GMAT	See program description
Chemistry (M.S. and Ph.D.)	GRE	No minimum required*
Communication	GRE or MAT	50th percentile General, GRE, 50th percentile, MAT
Computer and Information Science	GMAT or GRE	See program description

Economics	GRE	No minimum required*
EDUCATION:	1	,
- M.Ed.	GRE or MAT	50th percentile General, GRE, 50th percentile, MAT
- Ph.D.	GRE	See program description
ENGINEERING:	,	,
- Doctoral Program (D. Eng.)	GRE	50th percentile Analytical and 80th percentile Quantitative
- Chemical Engr. (M.S.)	GRE	50th percentile Analytical and 80th percentile Quantitative
- Civil Engr. (M.S.)	GRE	50th percentile Analytical and 80th percentile Quantitative
- Electrical Engr. (M.S.)	GRE	50th percentile Analytical and 80th percentile Quantitative
- Engr. Mechanics (M.S.)	GRE	50th percentile Analytical and 80th percentile Quantitative
- Environmental Engr. (M. S.)	GRE	50th percentile Analytical and 80th percentile Quantitative
- Industrial Engr. (M.S.)	GRE	50th percentile Analytical and 80th percentile Quantitative

- Mechanical Engr. (M.S.)	GRE	50th percentile Analytical and 80th percentile Quantitative
English		No examination requirement; writing sample required
Environmental Sciences (M. S.)	GRE	50th percentile General
Environmental Studies (M.A.)	GRE	No minimum required*
Health Sciences	GRE	50th percentile General
History	GRE	50th percentile General required, and Subject recommended
Labor Relations and Human Resources	GRE or GMAT	See program description
Music	GRE	50th percentile Verbal only
Nursing	GRE or GMAT	See program description
Occupational Therapy	GRE	50th percentile General
Philosophy	GRE	General recommended but not required
Physical Therapy	GRE	See program description
Physics	GRE	50th percentile General and Subject

- Clinical Counseling	GRE	No minimum required*	
- Consumer Industrial	GRE	No minimum required*	
- Diversity Management	GRE	General and Subject if undergraduate GPA below 2.75	
- Experimental Research	GRE	Verbal and Quantitative must total 1,000 or more points	
- School Psychology Specialist (Psy.S.)		See program description	
Public Administration	GRE	50th percentile General	
Public Health	GRE	See program description	
Social Work		No examination requirement	
Sociology		No examination requirement	
Spanish		See program description	
Speech Pathology	GRE or MAT	50th percentile General	
Urban Planning, Design, and Development	GRE	50th percentile General	
URBAN STUDIES:			
- M.S.	GRE or MAT	No minimum required*	
- Ph.D.	GRE	Combined score of 1050 on Quantitative and Verbal	

\*The program requires the admission examination noted, however, no specific minimum score is required to be considered for admission.

#### Exam key:

**GMAT - Graduate Management Admissions Test** 

**GRE - Graduate Record Examination** 

MAT - Miller Analogies Test

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The academic status of a graduate degree-seeking, certificate, or licensure applicant is determined after a review of admission credentials. Graduate Program Committees, in concurrence with the Office of Graduate Admissions, may recommend admission of applicants as Regular graduate students or as Conditional graduate students.

A Regular Graduate Student is one who has satisfied all requirements for admission to the Graduate College and to a departmental program, including submission of all documents (see the sections on Admission and Admission Procedures in this Catalog), or one who has been previously admitted to the University as a Conditional or a Non-Degree graduate student, has submitted all required application materials, and is in good academic standing at the time of application to regular degree-seeking, certificate, or licensure status.

A Conditional Graduate Student is one who has failed to submit all necessary application materials, but who does meet the University's minimum grade-point and/or admission test score requirements. An official transcript showing receipt of a baccalaureate degree must be provided to qualify for Conditional admission. Although a decision for Conditional admission can be rendered, the student will not be permitted to register for classes until outstanding materials are received in the Graduate Admissions Office. Upon receipt of outstanding admission credentials, the

graduate program concerned will consider the student for Regular graduate student status.

Upon acceptance for graduate study as a Regular or Conditional graduate student, the student should confer with the appropriate departmental advisor to plan an academic program of study. Subsequent changes to the plan of study should be made only with advisor approval.

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#### TRANSIENT STUDENT ADMISSION

There are two categories of Transient students: 1) those enrolled in a graduate program at another college or university who wish to take a limited amount of graduate work at Cleveland State University; and 2) those enrolled in a master's or doctoral degree program at Cleveland State University who wish to take a limited amount of graduate work at another institution. At Cleveland State University, a Transient student is subject to the same academic regulations that govern degree-seeking students.

- 1. Students from outside Cleveland State seeking Transient status at the University must complete the Graduate Transient Application and receive approval from their home institution to enroll for specified courses. Students should obtain the Transient approval form from their home institution. There is a \$15 application fee (non-refundable) payable to Cleveland State University. Admission as a Transient student is valid for one semester only; a new application (no additional fee) is required prior to registration if the student wishes this status to be extended for another academic term.
- 2. Cleveland State University students who wish to attend another institution are required to consult with their program advisor and/or department chair and complete a CSU Graduate Student Transient Approval form. Only students who are in good academic standing in their degree program qualify for Transient student status. Forms may be downloaded at www.csuohio.edu/gradcollege/ and also are available from the Graduate College Office, Fenn Tower, Room 1111, and the Office of Graduate Admissions, Rhodes Tower West, Room 204.

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**NON-DEGREE ADMISSION** 

The University provides an opportunity for individuals who hold a baccalaureate or higher degree to enroll in graduate courses without admittance to a graduate degree, certificate, or licensure program. Non-Degree status is designed for those who want to take graduate courses for professional growth and/or personal enrichment, or who wish to take a limited amount of course work to explore the possibility of later entering a graduate degree, certificate, or licensure program. (Note: Students with graduate Non-Degree status are not permitted to enroll in Cleveland State graduate certificate or licensure programs.)

#### **Non-Degree Students: Admission Requirements**

- Receipt of an earned baccalaureate degree from a fully accredited academic college or university. Baccalaureate degrees earned outside of the U.S. must be equivalent to baccalaureate degrees earned in the U.S. International applicants must submit official transcripts and diplomas for evaluation to be considered for Non-Degree graduate admission.
- 2. The University requires all non-native English speakers to demonstrate proof of language proficiency. Any individual who has earned a bachelor's or higher degree from a U.S. institution where the primary language of instruction was English is not required to take an English language proficiency examination. English language proficiency test options and score requirements appear in the "International Students" section above.
- 3. Filing a completed application form with the Graduate Admissions Office.
- 4. There is no Graduate Application fee for Non-Degree graduate students. However, if the Non-Degree student requests admission to a graduate degree, certificate, or licensure program, the required \$30 Graduate Application Fee must be paid. The student must submit an application to the degree, certificate, or licensure program and all required admission materials to the Graduate Admissions Office before an admission decision will be rendered.

Submit Non-Degree Applications to:

Office of Graduate Admissions Rhodes Tower West, Room 204 Cleveland State University 2121 Euclid Avenue RTW 204 Cleveland, Ohio 44115-2214 Telephone (216) 687-5599 Fax (216) 687-5400 www.csuohio.edu/gradcollege

#### **Non-Degree Students: Enrollment Conditions**

The following conditions must be met by Non-Degree graduate students:

- 1. Students must meet course prerequisites unless waived by the instructor (in some cases, program authorization is required).
- 2. Students are permitted to enroll in classes on a space-available basis. Priority is given to graduate degree, certificate, and licensure students where limited enrollment occurs.
- 3. Non-Degree students are graded on a letter-grade basis. Exceptions are made only if the student requests Audit (N/C) or Satisfactory/ Fail (S/F) status within the first week of classes. **Students must perform at the "B" or better level to receive a Satisfactory grade.**
- 4. Non-Degree students may not earn a graduate degree, certificate, or licensure awarded by the University.

A Non-Degree student may be considered for graduate degree, certificate, or licensure status by completing an updated graduate admission application, submitting all credentials required for admission to a graduate degree, certificate, or licensure program, and meeting all requirements thereof. A student who has an undergraduate grade-point average of less than 2.75, but who has completed 12 or more graduate credit hours with a 3.00 or better grade-point average as a Non-Degree graduate student at Cleveland State University, may be exempted by the Graduate College from taking a graduate admission examination. Such exemptions require the endorsement of the graduate program that the student wishes to enter.

Non-Degree graduate students with a Cleveland State graduate grade-point average (GPA) below 3.00 are not eligible for admission to a graduate degree, certificate, or licensure program. To be considered for degree, certificate, or licensure admission, the graduate GPA must be raised to at least 3.00.

A student who changes from Non-Degree to degree status may be permitted, with program approval, to apply a maximum of 12 credits of non-degree course work toward fulfillment of master's degree requirements. A student may petition for an extension of the 12-credit limit. If approved by the departmental/program graduate committee, such requests do not require the review and approval of the Graduate College Petitions Committee. However, if denied at the departmental level, requests for an extension of

the 12-credit limit may be submitted to the Graduate College Petitions Committee for review and disposition.

Not more than eight credits of graduate work taken on a satisfactory/fail basis may be applied toward graduate degree requirements.

Unless otherwise noted in the materials to follow in this Catalog, a Non-Degree student is subject to the same academic regulations that govern degree-seeking students.

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## Cleveland State University



### academic regulations

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#### Academic Regulations

#### **EXCEPTIONS AND PETITONS**

Students seeking exemption from program requirements and/or regulations must petition their Graduate Program Committee, which acts on such requests and informs the student, the Registrar, and the Graduate Dean of its decision. Petitions concerning University and Graduate College requirements and regulations should be initiated through the graduate program advisor and graduate committee for recommendation and are forwarded to the Petitions Committee of the Graduate College for action. Once the Graduate College committee makes a decision, the student, the program advisor, and the program director are notified and a notation is placed on the student's academic record.

Before filing a petition with the Graduate College, the student should review thoroughly all applicable regulations so that the presentation is complete and accurate. The following guidelines should be followed so that petitions can be presented in a way most likely to correctly inform the Graduate College Petitions Committee. This body conducts the final review of graduate petitions.

When referring to a course, include the course number, title, semester taken, and the instructor's name. Any petition requesting an exemption from a course requirement, a late withdrawal, an extension of an I grade, or a change in grading status must include an instructor's dated statement. The instructor's statement should include 1) information on the student's performance in the course; 2) whether or not the student's request is supported by the instructor; and 3) the instructor's rationale for supporting, or not supporting, the petition.

All requests for action on the grounds of medical, personal, legal, or work-related difficulties, either previous or ongoing, must include written documentation of the problem and a dated and signed statement on official letterhead from the appropriate person (attorney, doctor, dentist, employer, etc.). The documentation provided must address directly how the difficulties noted had an adverse effect on the student's academic performance. Without this information/documentation, petitions will be returned to the student without Petitions Committee action.

Please note that the University Graduate Council has determined that poor academic performance on a midterm examination or in other course requirements does not constitute sufficient grounds for granting a student a late withdrawal from a course.

If questions arise in preparing a petition, contact the Graduate College Office (Fenn Tower, Room 1111) at (216) 687-9370.

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#### THESIS/DISSERTATION

Requirements for a thesis/dissertation and/or an examination as a requirement for the graduate degree are determined by the degree program. A thesis/dissertation may take any of several forms, such as a scholarly essay, research report, or a creative artistic work. The format of such presentations does not need to conform to traditional standards of style where such standards are not appropriate. However, the form and style of theses/dissertations that are more traditional research reports should follow standard manuals of style with any supplementary guides used by the various disciplines acceptable to the departmental graduate committee. A copy of the Thesis and Dissertation Format Guidelines is available at www. csuohio.edu/gradcollege/ and from the Graduate College Office. Students are encouraged to review the Guidelines before preparing the thesis/ dissertation document.

A student cannot be admitted to degree candidacy, nor register for thesis/dissertation work, until the student is a Regular Graduate Student. Doctoral and master's students must complete the Thesis/Dissertation Proposal Approval form (download from the Graduate College web site) and obtain the required signatures prior to thesis/dissertation registration. Once a student registers for thesis/dissertation credit, he or she must register for thesis/dissertation credit each semester during the academic year (fall and spring terms) until the completion and defense of the project. (See T Temporary non-credit grade under Grades.) The number of thesis/dissertation credits required is a departmental matter; however, the student must register for a minimum of one thesis/dissertation credit each semester until the completion of the thesis/dissertation, acceptance by the program committee, and submission for final approval.

Acceptance of the thesis/dissertation requires that the signatures of the advisor and at least two other Graduate Faculty members appear on the document. One member external to the degree program must be included on all doctoral dissertation committees. The advisor and all other committee members must be voting members of the Graduate Faculty for the acceptance of the thesis/dissertation by the Graduate College.

All doctoral dissertations require a public defense announced to the University community with sufficient notice.

The thesis and one copy (or two professional-quality copies) must be submitted to the degree program for approval not less than one week prior to the end of the semester in which the student plans to graduate. The dissertation and one copy (or two professional-quality copies) must be submitted to the Graduate College Office for approval not less than one week prior to the end of the semester in which the student plans to graduate.

After approval by the degree program (for a thesis) or Graduate College Office (for a dissertation), the student then submits the original and copies of the thesis/dissertation to the University Library for binding and retention in the Archives and the Circulation departments. Prior to binding, all doctoral dissertations are forwarded to University Microfilms International for publication in Dissertation Abstracts International.

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### DISCONTINUATION OF A THESIS, DISSERTATION, OR ALTERNATE EXIT PROJECT

Should a student wish to discontinue a thesis/dissertation or alternate project after receiving one or more T grades for previous registrations, the student may request of the Graduate College Petitions Committee that W grades replace the T grades.

Students who decide to switch from the thesis option to an alternate exit project, or vice versa, are not permitted retroactively to change their registration in previous thesis or project course work via petition.

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#### UNIVERSITY GRADUATE DEGREE REQUIREMENTS

1. A student has a period of six years from date of entry into the Graduate College to complete requirements for a master's degree. Only course work, including transfer credit and credit by examination, completed within the immediate past six-year period will apply toward the master's degree. A student entering a doctoral program, either having received the master's or professional degree from another institution or having interrupted his or her studies at Cleveland State upon receipt of the master's degree, must complete doctoral degree requirements within six calendar years from the date of entry into doctoral studies. Petitions to extend the time period to complete a graduate degree must receive the approval of the

- departmental/program graduate committee. If approved by the departmental/program graduate committee, petitions to extend the time period to complete a graduate degree do not require review and approval by the Graduate College Petitions Committee. However, if denied at the departmental level, requests for an extension of the time period to complete a graduate degree may be submitted to the Graduate College Petitions Committee for review and disposition.
- 2. A student who enrolls consecutively in master's and doctoral programs without interruption of at least one academic year following receipt of the master's degree must complete doctoral requirements within 10 calendar years from the date of admission to the master's program. Petitions to extend the 10-year period to complete a doctoral degree must receive the approval of the departmental/program graduate committee. Such petitions do not require review and approval by the Graduate College Petitions Committee.
- 3. A student who is a candidate for a master's degree must fulfill the Graduate College's residence requirement of having earned at least 16 credit hours of acceptable graduate credit while enrolled in the Graduate College at Cleveland State University.
- 4. Of the minimum 30 credit hours required for graduation with a master's degree, only eight credit hours of 400-level courses can be used to meet graduation requirements. The 400-level courses may not be offered by the department or program in which the master's degree would be awarded. No 100- to 300-level courses may be applied toward a graduate degree. The remainder of the course requirements must be graduate-level (500-to-800-level) courses.
- 5. Subject to departmental approval, nine graduate credit hours of transfer credit may be applied toward the requirements of a master's degree, and no more than one-third of the total graduate hours required for the doctoral degree may be transfer credit for doctoral students. (See Transfer Credit and Credit by Examination policies earlier in this section of the Catalog.) Petitions to extend transfer credits should be submitted to the departmental/program graduate committee. If approved by the departmental/program graduate committee, such requests do not require review and approval by the Graduate College Petitions Committee. However, petitions for acceptance of more than nine hours of transfer credit which are not approved at the departmental/program level may be submitted to the Graduate College Petitions Committee for review and disposition.

Not more than one-half of a student's total graduate degree program may be a combination of transfer credit and credit by examination.

- 6. Achievement of at least a 3.00 cumulative grade-point average for all courses taken as a graduate student, including 400-level undergraduate courses, is required for graduation. All grade-point averages are carried to two decimal places unrounded. The University Graduate Council has determined that the minimum 3.00 grade-point average required for graduation cannot be waived via petition.
- 7. A maximum of six credit hours of 500- to 800-level work graded on an S (satisfactory) basis may be used to meet degree requirements. Excluded from this requirement are courses that are graded only on an S/F basis.
- 8. A maximum of eight credit hours of work at the C level for 400-level and above courses may apply toward graduate degree requirements.
- 9. A student must be registered for at least one graduate credit during the semester of graduation; i.e., if the student plans to graduate at the end of the spring semester, he or she must enroll during the spring term.

If an appropriate course in the student's program area is not available for registration for the graduation term, the student may register for GCL 690, which is a one-credit, non-graded course. In order to enroll in GCL 690, the student must have registered for and completed all required course work in previous semesters either with a letter grade or an Incomplete (or similar continuing status grade) and must have outstanding work for an Incomplete graded course(s). Enrollment requires written authorization from the student's graduate program director certifying that the individual has met all degree requirements except for the completion of the work in the courses in which Incomplete grades were received. Enrollment in GCL 690 is administered by the College of Graduate Studies office, (216) 687-9370.

#### **Application for Graduation**

Degree candidates are encouraged to apply for graduation two semesters before their expected graduation date. Graduation applications can be obtained from the Graduation Office, University Center, Room 400, (216) 687-3870.

#### **Presence at Commencement**

Students are encouraged and expected to attend Commencement. However, those choosing not to attend may absent themselves by notifying the University Graduation Office.

Doctoral students may not participate in the University commencement ceremony unless they have successfully defended their doctoral dissertation prior to the commencement exercise.

#### **Completion of Certificate and Licensure Programs**

- 1. A student has a period of six years from date of entry into the Graduate College to complete requirements for a graduate certificate or graduate licensure program. Only course work, including transfer credit and credit by examination, completed within the immediate past six-year period will apply toward program completion.
- 2. A maximum of one-third of graduate certificate or graduate licensure program requirements may be satisfied with Cleveland State course work taken at the 400-level. Only 400-level courses taken from a department or program other than the one awarding the certificate or licensure may be used to meet completion requirements. No 400-level courses taken by a student as an undergraduate may be used to meet graduate certificate or licensure requirements.
- 3. Subject to departmental/program approval, a maximum of one-third of the requirements for a certificate or licensure program may be satisfied via transfer credit. (See the Transfer Credit Policy earlier in this section of the Catalog.)
- 4. Subject to departmental/program approval, not more than one-third of the requirements for a graduate certificate or licensure program may be satisfied via Credit by Examination. (See the Credit by Examination policy earlier in this section of the Catalog.)
- 5. No 400-or-above-level course work with a grade of "C" may be used to meet graduate certificate program requirements. A maximum of six credits of 400-or-above-level course work with a grade of "C" may be used to meet licensure program requirements.
- 6. Not more than 50 percent of the required credits for a graduate certificate or licensure program can be satisfied by a combination of:
  - a. 400-level courses;
  - b. graduate transfer credit; and
  - c. credit by examination for 500-and-above-level courses.
- 7. No course work taken on an S/F or audit basis may be used to satisfy graduate certificate or licensure program requirements.
- 8. A minimum grade-point average of 3.00 for all 400-and-above-level

work is required to satisfy licensure program requirements. A minimum grade point average of 2.75 is required to be awarded a graduate certificate. Individual graduate certificate programs, however, may set the minimum GPA requirement at a higher level for the completion of their particular graduate certificate program.

Licensure Students: College of Education Graduate licensure students must submit a completed State of Ohio Licensure packet to the Cleveland State Education Student Services Center. Licensure packets are available from the Education Student Services Center, Rhodes Tower, Room 1401, (216) 687-4625. Completed packets should be submitted at least one semester prior to the anticipated date of program completion.

**Graduate Certificate Students:** Graduate Certificate students must submit to the Graduate College Office (Fenn Tower, Room 1111, (216) 687-9370) a Graduate Certificate Completion form. Forms should be submitted one semester prior to the anticipated date of program completion. Graduate Certificate Completion forms may be downloaded from the Graduate College web site at www.csuohio.edu/gradcollege, and also are available from the Graduate College Office.

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#### UNIVERSITY REGULATIONS FOR STUDENT CONDUCT

Cleveland State University has adopted policies concerning the rights and responsibilities of all students. The Cleveland State University Student Handbook, available through the Department of Student Life (University Center, Room 102), outlines these policies under the heading "Student Conduct Code." The handbook provides an overview of the role of the student as a participating member of the University community, defining students' responsibilities while protecting their right to pursue legitimate educational goals.

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#### STUDENT ACADEMIC RESPONSIBILITY

Each graduate student is personally responsible for completing all University, College, and department degree requirements. It is the student's responsibility to be informed of these requirements. A student's advisor may not assume this responsibility, nor may the advisor substitute, waive, or exempt the student from any established requirement or academic

regulation.

#### **Academic Misconduct**

The University Policy on Academic Misconduct exists to resolve problems such as plagiarism, cheating on examinations, papers completed by someone other than the registered student, theft, mutilation of library materials, etc. The Policy details procedures for resolution of matters of conflict, channels of appeal, and penalties imposed, and can be found in the Cleveland State University Student Handbook. Copies are available from the Department of Student Life, University Center, Room 102.

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#### GRADE DISPUTE PROCEDURE

In disputing a course grade, the burden is on the student to demonstrate that an error has occurred or that a non-uniform standard was applied in the assignment of the course grade.

If a student feels that an instructor's assignment of a course grade is improper, the student should discuss the matter with the instructor within 45 days following completion of the semester in which the course was taken.

If resolution does not result from this meeting, the student should promptly write to the chairperson of the instructor's department (or an appropriately designated substitute) stating the nature of the dispute and its justification. The chairperson will provide the course instructor with a copy of the student's statement and any additional documents submitted. The instructor should promptly respond, in writing, and a copy must be provided to the student. Further statements and documentation may be collected, if necessary, by the chairperson.

Once the written record is complete, the chairperson meets with the student and instructor in a three-way conference to try to resolve the dispute. Any student not satisfied with the outcome of the meeting with the instructor and the department chairperson may continue the dispute by petitioning the Graduate College Grade Dispute Committee. In such cases, the chairperson must promptly transmit all documents, including the chair's recommendation concerning the dispute, to the Graduate College Grade Dispute Committee. The Committee will 1) inform both the student and the instructor of the Committee's membership; 2) send both parties copies of all written documents received and any additional materials gathered by the Committee; 3) allow both parties to respond in writing to any new materials

assembled; and 4) schedule a hearing inviting both the student and instructor to present their positions on the dispute.

The recommendation of the Graduate College Grade Dispute Committee, along with a copy of the entire grade dispute file, is forwarded for final decision to the University Admissions and Standards Committee, which limits its review to the determination of the following of due process. The decision of the University Admissions and Standards Committee is transmitted in writing to both the student and the instructor. There is no further appeal within the University from the Admissions and Standards Committee's decision.

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#### PLAGIARISM POLICY

Plagiarism is the act of presenting as one's own the ideas, opinions, writings, or work of another person without appropriate scholarly attribution. This act is academic dishonesty and is a serious incident of academic misconduct.

Ideally, situations of plagiarism should be handled between the faculty member and the student. Any student who disagrees with the instructor's decisions should follow standard channels of communication, going first to the department chairperson and then, if still not satisfied, writing to the academic dean of the college in which the course is offered. The Review Committee of the Faculty Senate decides the matter if it cannot be settled within the college. The committee is composed of two faculty members of the University, nominated by the Faculty Senate Steering Committee and elected at large by the faculty, and one student member of the University Judiciary, elected by the members of the body. The decision of the Review Committee is final. If found guilty, the instructor or the committee informs the appropriate academic dean. A record of the decision is placed in the student's academic file until the student graduates or separates from the University. A second infraction shall be cause for further action by the academic standards committee in the appropriate college.

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#### ACCESS TO STUDENT RECORDS

In accordance with federal law, University policy permits students to inspect their educational records. A student wishing to see his or her

records may do so in the Registrar's Office, University Center, Room 400, where a complete listing of the individual's educational records is available. The University is forbidden to share student record information with third parties unless the student grants permission in writing to do so.

#### **Institutional Policies on Access to Student Records**

In compliance with the Family Education Rights and Privacy Act (FERPA) of 1974 Cleveland State University has established the following policies:

#### Access to Student Records

University policy permits students to inspect their educational records. A student wishing to see his or her records may do so in the Registrar's Office, University Center, Room 400. The University is generally prohibited from sharing student record information with third parties unless the student grants permission in writing to do so, or in response to a court order or subpoena.

#### **Right to Review Records**

Students attending Cleveland State University have the right to review educational records that consist of official records, files, and data directly related to them that are maintained by a University department, college, or office. Personal files maintained by faculty or staff are excluded from coverage under this policy.

Medical and counseling records maintained by professional or paraprofessional physicians or counselors that may be used in treatment or counseling with a student are deemed confidential and need not be shared with a student. A physician or other appropriate professional of the student's choice may review such records.

Financial aid records and files are confidential and need not be shared with students. Files maintained by the University Police Department are confidential, except that the student involved in the incident may view the record known as the incident report.

- A. Students may request the opportunity to review their records.
  - 1. The request should be made to the administrator in charge of the University office in which the records are on file.
  - 2. The University office may require the request to be in writing.
- B. A student request to inspect and review a record will be granted within a reasonable period of time. Such time shall not exceed 45 days after receipt of the request.

- C. Records must be inspected and reviewed by the student in the presence of the administrator in charge or a designee.
  - 1. The student shall be advised of the right to challenge and the procedure to challenge any portion(s) of a school record.
  - 2. Records may not be changed or portions deleted during inspection and review.
  - 3. Upon written request, the student shall be provided with a copy of any portion(s) of the school record, subject to a fee.

#### **Hearing to Challenge the Content of Records**

Students have an opportunity for a hearing to challenge the content of their school records to ensure that the records are not inaccurate, misleading, or otherwise in violation of the privacy or other rights of students, and to provide an opportunity for the correction or deletion of any such inaccurate, misleading, or otherwise inappropriate data contained therein.

- A. A student may request, in writing, a hearing to challenge the content of his or her school record.
  - 1. A request should be made to the President of the University or the President's designee.
  - 2. A request must:
    - a. Identify in specific terms the portion(s) of the record being challenged;
    - b. State the reason(s) for challenging the portion(s) of the record so identified;
    - c. State the remedy sought (e.g., the addition, alteration, or deletion of specific information under challenge).
  - 3. The written challenge is maintained as part of the record or file in question until the conclusion of the hearing.

#### B. Hearing Procedures

- 1. The President or President's designee conducts the hearing.
- 2. The hearing will be granted within 15 working days after receipt of the request.
- 3. Prior to the hearing, the hearing officer shall notify the student and the University official representing the record of the time, place, and date of the hearing and of the specific portion(s) of the student's school record to be challenged in the hearing.
- 4. The University official or designee responsible for the

- student record under challenge shall represent that record in the hearing.
- 5. The hearing shall be limited to a consideration of the specific portion(s) of the student's school record being challenged.
- 6. The student has the right to be assisted by an advisor of his or her choice.
- 7. The burden of sustaining the challenge rests with the student.
- 8. The student and the University official have the right to present evidence and witnesses directly related to the portion (s) of the student's record being challenged.
- 9. The hearing officer shall keep a taped record of the hearing.
- 10. The hearing officer must provide the student with written notification of the disposition of the challenge, including the reason(s) for the disposition.

#### C. Findings

- 1. The record stands.
- 2. The record is corrected.
- 3. The record is deleted.

#### **Challenge to Grades**

The Family Education Rights and Privacy Act (FERPA) of 1974 does not cover challenges by students to course grades.

#### **University Policy on Record of Access to Student Records**

Students attending Cleveland State University have the right to know who has had access to their records and the reason for that access.

Accordingly, University offices with students' education records must maintain a record listing the names of all parties, other than University officials with a legitimate educational interest, who have requested or obtained access to and/or copies of student records. This record must be shown to students requesting such information.

#### **Student Records Maintained at Cleveland State University**

#### **University Admissions Office**

 Records submitted by applicants are not available for inspection until admittance and registration of the student. At that time, a copy of the admission application will be forwarded to the Registrar's Office.

#### Registrar's Office

- Admission Information
- Residency Petitions
- Academic Records
- Current Schedules
- Change of Name Record
- Veterans' Certification file
- Semester Grade Reports
- Transcript Request File
- Add/Drop Forms
- Transient Records
- Graduation Application
- Current Registration Materials

#### **Alumni Office**

- Names and addresses of alumni
- Degree information for alumni

#### **Bursar's Office**

• Student financial record

#### **College of Education Student Personnel Services**

College of Education student records are maintained in this office rather than in the Education College Dean's Office. Under the Family Education Rights and Privacy Act (FERPA) of 1974, confidential materials submitted prior to January 1, 1975, are not available. Records that are available include: (undergraduate) academic records, Students' Written Objectives, speech and hearing test results, T.B. test results, and schedules; (graduate) application, transcript, GRE test results or Miller Analogies Test results, and letters of recommendation.

#### **Co-op Office**

- Education file
- Employer file

#### Dean's Offices (Undergraduate

- Academic records
- Student file

#### Dean's Office Graduate

Academic records

#### Dean's Office Law

- Academic records
- Admission file
- Placement file
- Student file
- Student schedules

#### **Departmental Office**

- Student schedules
- Academic information

#### **Division of Collegiate Studies**

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#### FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

Cleveland State University is required to give annual notice to students, or parents of students, of the rights granted by the Family Education Rights and Privacy Act (FERPA) of 1974. In accordance with this Act, students are notified of the following:

#### **Right to Consent**

Students have the right to consent to disclosures of personally identifiable information contained in educational records, except to the extent that

FERPA authorizes disclosure to University officials with legitimate educational interests.\*

#### **Right to Inspect**

Students have the right to inspect and review information contained in educational records maintained by Cleveland State University.

#### **Right to Request Amendment**

Students have the right to request an amendment of an educational record that they believe to be inaccurate, misleading, or otherwise in violation of their FERPA rights. This includes the right to a hearing should the University decide not to alter a record according to the student's request.

#### **Right to Prevent Disclosure**

Students have the right to restrict the release of information that may be disclosed on an unlimited basis by University personnel in response to oral or written requests. Certain exceptions to this rule are specified in the Act.

#### Right to File a Complaint

Students have the right to file a complaint with the Department of Education concerning any belief they have that Cleveland State University has failed to comply with the provisions of FERPA. Written complaints should be directed to The Family Policy Compliance Office, U.S. Department of Education, 600 Independence Avenue, SW, Washington, D. C. 20202-4604. Phone: (202) 260-3887; Fax: (202) 260-9001.

\*A University official is a person employed by the University in an administrative, supervisory, academic or research, or support staff position (including law enforcement and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or consultant) or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another University official in performing his or her tasks. A University official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

A copy of Cleveland State University's institutional policies on access to student records may be obtained by request from the Registrar's Office, University Center, Room 400, or viewed on the web site at www.csuohio. edu/Registrar. These policies set forth the procedures for inspection and amendment of educational records.

#### **Student Rights Regarding the Release of Directory Information**

The Family Education Rights and Privacy Act (FERPA) of 1974 permits Cleveland State University to release directory information about students. The University classifies the following information as public information and may release it unless otherwise instructed by the student:

- 1. Confirmation of registration of specific individuals;
- 2. Dates of attendance of specific individuals;
- 3. Whether a particular student has graduated and the year of graduation;
- 4. Degree earned by a specific student;
- 5. Names and addresses of recipients of honors and awards;
- 6. Weight and heights of members of athletic teams

Under ordinary circumstances, lists of students are not provided to individuals and/or organizations. The University reserves the right to publish a student directory listing names and addresses of students.

Students who wish to restrict the release of the foregoing information can do so by submitting the following statement to the Registrar's Office, University Center, Room 400: "I request that Cleveland State University not release any directory information about me." This request must be signed and dated by the student, and include his or her name, printed clearly, and Cleveland State ID number. The request becomes effective upon receipt and remains in effect as long as the student is enrolled at Cleveland State. However, even if such a request is filed, the University will release information as necessary if it is determined that disclosure is permitted by FERPA without prior consent (e.g., response to a subpoena, health or safety emergency, etc.). If a student requests that the foregoing information be withheld, it will be withheld from a variety of sources, including friends, relatives, prospective employers, insurance agencies, honor societies, and the news media. Students should carefully consider the consequences of withholding such information.

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#### STUDENT FINANCIAL RESPONSIBILITY

Students are responsible for meeting their financial obligations to the University. Students with outstanding debts to Cleveland State may be denied all University services, including registration and transcripts.

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#### **PAYMENT METHODS**

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OHIO BOARD OF REGENTS RESIDENCY REGULATIONS

#### OHIO RESIDENCY

#### A. Intent and Authority.

- 1. It is the intent of the Ohio Board of Regents in promulgating this rule to exclude from treatment as residents, as that term is applied here, those persons who are present in the state of Ohio primarily for the purpose of receiving the benefit of state-supported education.
- 2. This rule is adopted pursuant to Chapter 119 of the Revised Code and under the authority conferred upon the Ohio Board of Regents by Section 3333.31 of the Revised Code. Effective date: 1989.

Students possessing B, F, and J visas are not eligible for Ohio Residency for tuition purposes.

#### **B. Definitions**

For purposes of this rule:

- 1. A "resident of Ohio for all other legal purposes" shall mean any person who maintains a twelve-month place or places of residence in Ohio, who is qualified as a resident to vote in Ohio and receives state welfare benefits, and who may be subjected to tax liability under Section 5747.02 of the Revised Code, provided such person has not, within the time prescribed by this rule, declared himself or herself to be or allowed himself or herself to remain a resident of any other state or nation for any of these or other purposes.
- 2. "Financial support" as used in this rule, shall not include grants, scholarships, and awards from persons or entities which are not related to the recipient.
- 3. An "institution of higher education" as used in this rule shall mean any university, community college, technical institute or college, general and technical college, medical college or private medical or dental college which receives a direct subsidy from the State of Ohio.
- 4. For the purpose of determining residency for tuition surcharge purposes at Ohio's state-assisted colleges and universities, "domicile" is a person's permanent place of abode; there must exist a demonstrated intent to live permanently in Ohio, and a legal ability under federal and state law to reside permanently in the state. For the purpose of this policy, only one (1) domicile may be maintained at a given time.

5. For the purpose of determining residency for tuition surcharge purposes at Ohio's state-assisted colleges and universities, an individual's immigration status will not preclude an individual from obtaining resident status if that individual has the current legal status to remain permanently in the United States.

#### C. Residency for Subsidy and Tuition Surcharge Purposes.

The following persons shall be classified as residents of the state of Ohio for subsidy and tuition surcharge purposes:

- 1. A dependent-student, at least one of whose parents or legal guardian has been a resident of the state of Ohio for all other legal purposes for twelve consecutive months or more immediately preceding the enrollment of such student in an institution of higher education.
- 2. A person who has been a resident of Ohio for purpose of this rule for at least twelve consecutive months immediately preceding his or her enrollment in an institution of higher education and who is not receiving, and has not directly or indirectly received in the preceding twelve consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.
- 3. A dependent child of a parent or legal guardian, or the spouse of a person who, as of the first day of a term of enrollment, has accepted full-time employment and established domicile in the state of Ohio for reasons other than gaining the benefit of favorable tuition rates.

Documentation of full-time employment and domicile shall include both of the following documents:

- a. A sworn statement from the employer or the employer's representative on the letterhead of the employer or the employer's representative certifying that the parent or spouse of the student is employed full-time in Ohio.
- b. A copy of the lease under which the parent or spouse is the lessee and occupant of rented residential property in the state; a copy of the closing statement on residential real property located in Ohio of which the parent or spouse is the owner and occupant; or if the parent or spouse is not the lessee or owner of the residence in which he or she has established domicile, a letter from the owner of the residence certifying that the parent or spouse resides at that residence.

#### 4. Additional Criteria

Additional criteria which may be considered in determining residency may include but are not limited to the following:

#### 1. Criteria evidencing residency:

- a. If a person is subject to tax liability under Section 5747.02 of the Revised Code;
- b. If a person qualifies to vote in Ohio;
- c. If a person is eligible to receive state welfare benefits:
- d. If a person has an Ohio driver's license and/or motor vehicle registration.

#### 2. Criteria evidencing lack of residency:

- a. If a person is or intends to be a resident of another state or nation for the purposes of tax liability, voting, receipt of welfare benefits, or student loan benefits (if the student qualified for that loan program by being a resident of that state or nation);
- b. If a person is a resident or intends to be a resident of another state or nation for any purpose other than tax liability, voting, or receipt of welfare benefits (See paragraph (D) (2) (a) of this rule).

#### 3. Exceptions

The following constitute exceptions to the general rule of residency for subsidy and tuition purposes.

- 1. A person who is living and is gainfully employed on a full-time or part-time and self-sustaining basis in Ohio and who is pursuing a part-time program of instruction at an institution of higher education, shall be considered a resident of Ohio for these purposes.
- 2. A person who enters and currently remains upon active duty status in the United States military service while a resident of Ohio for all other legal purposes, and his or her dependents, shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile.
- 3. A person on active duty status in the United States

- military service who is stationed and resides in Ohio, and his or her dependents, shall be considered residents of Ohio for these purposes.
- 4. A person who is transferred by his employer beyond the territorial limits of the fifty states of the United States and the District of Columbia while a resident of Ohio for all other legal purposes, and his or her dependents, shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile as long as such person has fulfilled his or her tax liability to the state of Ohio for at least the tax year preceding enrollment.
- 5. A person who has been employed as a migrant worker in the state of Ohio and his or her dependents shall be considered a resident for these purposes provided such person has worked in Ohio at least four months during each of the three years preceding the proposed enrollment.

#### 4. Procedures

- 1. A dependent person classified as a resident of Ohio for these purposes under the provisions of section (C) (1) of this rule and who is enrolled in an institution of higher education when his or her parents or legal guardian removes their residency from the state of Ohio, shall continue to be considered a resident during continuous full-time enrollment and until his or her completion of any one academic degree program.
- 2. In considering residency, removal of the student or the student's parents or legal guardian from Ohio shall not, during a period of twelve months following such removal, constitute relinquishment of Ohio residency status otherwise established under paragraphs (C) (1) or (C) (2) of this rule.
- 3. Any person once classified as a nonresident, upon the completion of twelve consecutive months of residency, must apply to the institution he or she attends for reclassification as a resident of Ohio for these purposes if such person in fact wants to be reclassified as a resident. Should such person present clear and convincing proof that no part of his or her financial support is, or in the preceding

twelve consecutive months has been, provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such person shall be reclassified as a resident. Evidentiary determinations under this rule shall be made by the institution which may require, among other things, the submission of documentation regarding the sources of a student's actual financial support.

- 4. Any reclassification of a person who was once classified as a nonresident for these purposes shall have prospective application only from the date of such reclassification.
- 5. Any institution of higher education charged with reporting student enrollment to the Ohio Board of Regents for state subsidy purposes and assessing the tuition surcharge shall provide individual students with a fair and adequate opportunity to present proof of his or her Ohio residency for purposes of this rule. Such an institution may require the submission of affidavits and other documentary evidence which it may deem necessary to reach a full and complete determination under this rule.

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#### Financial Aid

#### **GRADUATE ASSISTANTSHIPS**

Cleveland State University provides three types of graduate assistantships: teaching, research, and administrative assistantships. Each type of assistantship is designed both to serve the needs of the University and to assist in the professional development of the student. Graduate assistantships are regarded as apprenticeships during which, through formal instruction, interaction with faculty, classroom, research, and administrative experience, students become more effective as members of their chosen professional fields. Graduate assistants are regarded by the University as students first and University employees second. Students interested in applying for graduate assistantships should contact their graduate program director.

In addition to graduate assistantships, limited financial aid is available in the form of fellowships, student loans, research grants, Federal work-study, and non-work-study employment. Students seeking assistance should contact the Financial Aid Office and the academic department of the program that they plan to enter for additional information.

Note: Students who have applied for, or are receiving, federal student loans or other financial aid through the University may have their award eligibility adjusted if they receive a Graduate Assistantship or a tuition grant.

#### **Types of Assistantships**

Teaching assistantships are provided to assist departments in carrying out their undergraduate instructional programs. Teaching assistants aid faculty members in assembling classroom materials, leading discussion groups, supervising laboratory sessions, evaluating student performance, and carrying out other related instructional activities. Only assistants holding a master's degree, with exemplary academic records, may be assigned primary responsibility for instruction of lower division (100-200 level) undergraduate classes.

International teaching assistants whose native language is other than English may not be assigned direct instructional activities until they have been assessed and certified as proficient in spoken English.

Research assistantships are provided to assist faculty and staff members in conducting research. Whenever possible, research assistants are assigned to individuals working in a variety of areas in order to extend the research experience and professional development of the graduate student.

Administrative assistantships are provided to assist departments, divisions, institutes, colleges, and other offices of the University in managing their respective units. Administrative assistants are exposed to a variety of administrative experiences and tasks to prepare them for future professional roles.

#### **Terms of Assistantships**

- 1. Assistantships are awarded only to graduate degree-seeking students with superior academic records and who qualify at the time of their enrollment as regular graduate students as defined in this Catalog. Students must have an undergraduate grade-point average of at least 3.00, a graduate grade-point average of at least 3.00 (where applicable), and a Cleveland-Marshall Law School grade-point average of at least 2.50 (where applicable) to qualify for, and to retain, an assistantship.
- 2. Graduate assistants receive standard contracts with specific conditions and duties detailed, including a stipend and tuition support.
- 3. Each contract is signed by the academic officer authorized to initiate the appointment of the graduate assistant and by the academic officer authorized to expend funds for assistantships.
- 4. Graduate assistants are provided a tuition scholarship and a stipend by the contracting department.
- 5. Graduate assistantships are awarded on a full-time, two-thirds-time, or half-time basis that require 20 hours, 15 hours, or 10 hours of University service per week, respectively, during the academic term. Students holding a 20-hour assistantship may not hold any other form of employment, either within the University or off-campus, without receiving prior written approval from the Graduate Dean.
- 6. The term of appointment for a graduate assistantship is normally for one or more academic term(s), with the semester schedule adhering to the official University calendar. When assistantships do not follow the academic term schedule, the beginning and ending dates must be stated in the graduate assistantship contract.
- 7. Graduate Assistants are not required to work on University holidays when classes are not offered, nor are Graduate Assistants required to make up time for regularly scheduled service that falls on a University

holiday when classes are not offered.

- 8. Full-time, two-thirds-time, and half-time graduate assistants must maintain a nine or 12 credit-hour minimum registration at, or above, the 500-level during the contract period for the academic term specified. Courses taken on an audit basis do not qualify in meeting the nine or 12 credit-hour minimum registration requirement. Exceptions to the minimum registration requirement require the written approval of the Graduate Dean. Assistantship contracts are subject to cancellation if students do not meet the minimum registration requirement. Individual graduate degree programs determine whether the minimum registration must be nine or 12 credit hours per academic term. In general, doctoral-level graduate assistants register for 12 credit hours after reaching the dissertation stage in their program of study. Prior approval by the Graduate Dean is required for contracts for more than 16 credit hours per term.
- 9. All graduate assistants are required to attend the University's Graduate Assistant Orientation Program (GAOP) during the first academic term of employment. GAOP information is available from the Graduate College Office.
- 10. Students may be retained as graduate assistants as long as they are currently registered for the appropriate number of credit hours, have earned less than a total of 173 semester hours of graduate credit, are in good academic standing (cumulative graduate grade-point average of at least 3.00, and Cleveland State Law School grade-point average of at least 2.50, if applicable), are performing their duties to the satisfaction of the units in which they hold the appointment, and are making acceptable progress toward the completion of their graduate degree programs. The number of academic terms that a student may be retained as a graduate assistant is determined by the unit sponsoring the assistantship; however, normally master's degree students do not receive more than four semesters of assistantship support while doctoral students normally receive a maximum of 12 semesters of assistantship support, including all assistantship support received as a master's degree student within any Cleveland State University program(s).
- 11. Minimum stipend levels for graduate assistantships, by degree status of the student, are determined by the Pro-vost at the beginning of the fiscal year.

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**MAXIMUM WORK HOURS** 

All student employees of the University, including graduate assistants and tuition grant recipients, are limited to a maximum of 20 hours of service per week during the academic term. Graduate assistants and tuition grant recipients working 10 hours per week must, therefore, limit other University employment to 10 hours per week for a total work commitment not to exceed 20 hours per week. Graduate assistants and tuition grant recipients working 15 hours per week must limit their other University employment to five hours per week. Graduate assistants on a full-time (20 hours of service per week) contract may not hold other outside employment without written approval of the Graduate Dean since a Graduate Assistantship represents full financial assistance.

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#### CSU ADMINISTERED FINANCIAL AID PROGRAMS

Students interested in applying for University-administered financial aid programs should complete the Free Application for Federal Student Aid (FAFSA), or the Federal Renewal Application, after January 1 of each year. If selected for verification, calendar year tax returns and a CSU Verification form are required. Forms are available in the Financial Aid Office, University Center, Room 560.

Graduate students will be considered for three need-based programs based on the availability of funds and a minimum enrollment of six or more credit hours per semester.

#### Federal Work Study Program

This is a federal, need-based employment program. Selected funds are available for community service positions.

#### **Federal Perkins Loan Program**

This is a federal, need-based, five percent interest loan program administered by the Financial Aid Office. Interest does not accrue, and no payment is required while the borrower is engaged in at least half-time study (six or more credit hours). There is a nine-month grace period. A minimum quarterly repayment of \$120 is required for new borrowers on loans made after October 1, 1992.

#### Federal Subsidized Stafford Loan Program

Federal loan program administered by local lending institutions. The federal government pays interest on the loan for students while they attend school on at least a half-time basis. Repayment begins six months after leaving school at a minimum of \$50 per month. Students may take a maximum of 10 years to repay. The interest rate is variable and does not exceed 8.25 percent for loan periods beginning July 1, 1994. Maximum loan eligibility for this program is as follows:

- \$8,500 Annual Graduate maximum for Federal Subsidized
- \$10,000 Annual Graduate Maximum for Federal Unsubsidized
- \$65,500 aggregate total Undergraduate plus Graduate

#### Federal Unsubsidized Stafford Loan Program

The terms and conditions of loans made under the Federal Subsidized Stafford Loan Program apply to Federal Unsubsidized Stafford Loans, except the borrower is responsible for the interest that accrues while the student is in school unless the student requests that interest be capitalized.

Students must complete a Free Application for Federal Student Aid and receive their maximum loan eligibility in the Federal Subsidized Stafford Loan Program before being considered for this loan.

#### **Non-Degree Students**

Non-degree graduate students may qualify for the Federal Stafford Loan Program if their course work is required as a prerequisite to qualify for admission into a graduate degree-granting program. Eligibility for these loans continues for one consecutive 12-month period. The maximum eligibility amounts are \$5,500 in the Subsidized Loan Program and \$5,000 in the Unsubsidized Loan Program. Students are required to register for at least six credit hours in order to be eligible for the loan. A non-degree verification form must be completed each semester to determine eligibility. The Free Application for Federal Student Aid (FAFSA) must be on file with the Financial Aid Office in order to be considered for the Federal Stafford Loan programs. A student who has not been admitted as a Regular Graduate Student before the conclusion of the 12-month period will not be eligible for additional Stafford Loan assistance.

#### **Notification**

The processing time for financial aid applications varies with each student. Students should allow, however, a minimum of six to eight weeks for processing. Award Notifications are mailed directly to the student. All awards are based on full-time enrollment (12 or more credit hours). Students who receive need-based aid and later receive an assistantship or other resources that exceed their need will have their need-based aid adjusted accordingly in order to comply with federal financial aid regulations.

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STUDENT ENROLLMENT CHANGES THAT CAN REDUCE FINANCIAL AID ELIGIBILITY

There are three types of enrollment changes after aid has been disbursed that can reduce a student's financial aid eligibility. They are:

- 1. **dropped courses** (the course will not appear on the transcript),
- 2. official withdrawal (W grade) from ALL courses in a term, and
- 3. **unofficial withdrawal** from ALL courses within a term; student does NOT RECEIVE ANY earned grades (A, B, C, D, F, I, T, SA, SB, SC, UD and UF). Student has not withdrawn officially.

**Note:** If a student withdraws (receives a W) from some, but not all of his or her courses, aid adjustments are not required. However, students must be actively enrolled in at least six hours at the time a Stafford or PLUS loan is disbursed. For example, if a student originally enrolls for six hours, but withdraws (W grade) from one of his or her three-hour courses before the Stafford is posted to the student account, the loan cannot be disbursed. If the loan was disbursed prior to the student's withdrawal from the three-hour class, the University is not required to return the funds to the lender.

#### 1. Dropped courses

When a course is dropped, it will not appear on the student's academic transcript. On the transcript, it will appear as if the student was never enrolled for the course. Drops normally occur during the stated "drop period," but can occur retroactively as in the case of some medical withdrawals.

**Regardless of when the course drop occurs,** dropping courses can affect the aid types listed below (and may affect others). If the award reduction/return of funds creates a balance due on the student account, the student will receive a bill from the University.

Federal Stafford and PLUS loans - Students must be enrolled at least half-time (six or more hours) to be eligible for a Stafford or PLUS loan. If the course drop results in a student being enrolled for less than six hours, all Stafford and PLUS loan funds must be returned to the lender.

Perkins Loans, Federal Work Study - University regulations require that students be enrolled at least half-time (six or more hours). If the course drop results in a student being enrolled for less than six hours, all Perkins funds must be returned. All FWS earnings must be transferred to University employment.

#### 2. Official withdrawal from the University

When a student requests and receives a "W" in ALL courses, he or she is considered to have officially withdrawn from the University. Students who withdraw prior to completing 60% of the term have not "earned" all of their federal financial aid and a Return of Title IV Funds calculation must be performed. The unearned portion (based on the percentage of the term remaining) of the aid is returned to the lender or

aid program. For example, if a student completes only 20% of the term, then he or she has failed to earn 80% of the federal financial aid that was disbursed, or could have been disbursed, prior to the withdrawal. If the return of the funds creates a balance due on the student account, the student receives a bill from the University.

#### 3. Unofficial withdrawal from the University

Students who do not receive ANY "earned" grades (A, B, C, D, F, I, T, SA, SB, SC, UD, and UF) are considered to be unofficial withdrawals who stopped attending ALL of their courses prior to the end of the term. 50% of the aid used to pay direct educational costs (tuition, fees, room and board) must be returned to the lender or aid programs. If the return of the funds creates a balance due on the student account, the student receives a bill from the University.

#### **Retroactive official withdrawals**

If funds have been returned for a student based on his or her unofficial withdrawal, those funds cannot be reinstated if the student petitions for, and receives, a retroactive official withdrawal (all "W" grades).

#### Miscellaneous

Students who desire part-time jobs other than those offered through the Federal Work-Study program are advised to contact their academic department or refer to the jobs posted in Rhodes Tower West, Viking Hall, and University Center. For further information on aid programs, students should consult the Career Services Center, Rhodes Tower West, Room 280.

#### **Veterans' Administration Educational Allowance**

Students eligible for the Veterans' Administration Educational Allowance who do not make satisfactory progress required at the end of the second probationary period will be terminated for Veterans' Administration purposes. This termination will not affect a student's standing in school as long as the usual academic standards have been met.

#### **Satisfactory Academic Progress Standards**

Satisfactory academic progress evaluation measures the cumulative grade-point average (qualitative measure), the total number of hours attempted by the students (maximum time frame measure), and the percentage of credit hours attempted within an academic year that were successfully completed (quantitative measure). In addition to the specific measurements above, students must be eligible to continue in their program of study in order to receive federal financial aid. With the exception of students on probation and certain other students, satisfactory academic progress will be evaluated annually at the end of the summer term, which is the final term of the fall, spring, summer academic year.

Qualitative Measure: Cumulative grade-point average requirement

The minimum required cumulative GPA for graduate students is 3.00. Students must remain eligible to continue in their program of study. Students who are dismissed by the University or by the Graduate College are ineligible for federal financial aid for the program from which they were dismissed.

Maximum Time Frame: The maximum number of hours students may attempt for their program of study Students are ineligible for federal financial aid once they have attempted credit hours that equal or exceed 150% of the credit hours required for their program of study.

Quantitative Measure: Completion rate requirement

Students must successfully complete at least two-thirds (67%) of their total cumulative credit hours attempted each academic year. Successful completion is defined as receiving a grade of A, B, C, D, or S. Multi-term courses, in which a "T" grade is assigned pending completion of the final term, are treated as successfully completed during the initial term(s).

# **Treatment of selected grades**

The Financial Aid Office has specific policies defining the effect of incompletes, withdrawals, absence of assigned letter grades, and transfer credits in the measurement of attempted and successfully completed hours.

**Incompletes:** Credit hours in which a student receives an "I" (incomplete) are included in the number of attempted hours, but do not count as successfully completed hours.

**Withdrawals:** Credit hours in which a student receives a grade of "W" are included in the number of attempted hours, but do not count as successfully completed hours.

**Absence of an assigned letter grade:** Credit hours in which a student receives a grade of \*\*, I, NA, U, W, or X are included in the number of attempted hours, but do not count as successfully completed hours. Multi-term courses, in which a "T" grade is assigned pending completion of the final term, are treated as successfully completed during the initial term(s).

**Transfer credits:** Transfer credits are included in the total number of attempted hours for the measurement of maximum time frame.

**Repeated hours:** Hours for repeated courses as well as the initial hours for those courses are all included as attempted hours.

#### **Probation**

At the end of the academic year, students (who are not currently on probation) who do not have the required GPA and/or who have not successfully completed at least 67% of their attempted credit hours will be placed on probation for the following academic year. Their progress will be measured again at the end of their probationary year.

# Loss of eligibility

- 1. Students become ineligible for federal financial aid once they have attempted the maximum allowable credit hours for their program of study. If a student reaches the maximum time frame during an award year, he or she becomes ineligible to receive additional federal financial aid, and any aid that has been awarded for future terms will be cancelled.
- 2. Students on financial aid probation who fail to earn 67% of their attempted hours during their probationary year, or whose cumulative GPA is less than that required for the cumulative number of which they have earned at the end of their probationary year, are ineligible to receive additional federal financial aid.
- 3. Students who are dismissed by the University or the Graduate College are ineligible for federal financial aid.

# Regaining eligibility

- 1. Students who attend school (without federal financial aid) and increase their GPA to equal or exceed the required minimum for their credit hours and successfully complete more than 67% of their attempted hours for the semester can request a review of their eligibility status.
- 2. Students who are ineligible for federal financial aid due to failure to make satisfactory academic progress during their probationary period may submit a petition for reinstatement of financial aid eligibility. If the petition is approved the student's probationary period will be extended for one semester and the student will be eligible to receive federal financial aid during the extended probationary period.
- 3. Students who regain eligibility, either through meeting the satisfactory academic progress standards or an approval of their petition for reinstatement, may be eligible for Federal Pell Grants, Supplemental Educational Opportunity Grants, Perkins Loans, and Federal Work Study beginning with the term in which they are determined to be eligible; they may be eligible for Federal Stafford Loans for the entire award year.

# Petition for Reinstatement of Financial Aid Eligibility

Students who wish to petition for reinstatement of financial aid eligibility due to failure to maintain satisfactory academic progress may submit a written

petition to the Financial Aid Office. In order to submit a petition, a student must:

- 1. Complete **all items on the Petition for Reinstatement of Financial Aid Eligibility** (available from the Financial Aid Office). Complete **both sides** of the petition form. Attach required documentation and additional sheets.
- 2. Explain the mitigating circumstances that contributed to academic and resulting satisfactory academic progress problems. If the difficulties spanned multiple academic semesters, the student must explain the factors that contributed to the deficiencies over the **entire period**, not just the most recent semester.
- 3. The student is encouraged to schedule an appointment to meet with his or her academic advisor or dean's office representative to discuss academic progress and identify ways in which he or she can improve academic performance.
- 4. **ALL** petitioners will receive a written response as soon as possible, but no later than four weeks after submitting the necessary information.
- 5. If the petition is denied, the student will be responsible for all charges incurred as a result of the loss of federal financial assistance.

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# Master of Arts in English

# **Department of English**

Rhodes Tower 1815 (216) 687-3951 www.csuohio.edu/english/maeng.htm

#### **FACULTY**

**Professors:** Assistant Professors:

Earl R. Anderson Jennifer M. Jeffers John C. Gerlach, Chair Jeff Karem

John C. Gerlach, Chair Jeff Karen John A. C. Greppin

Glending Olson Adjunct Associate Professor:
David A. Richardson

Neal Chandler Associate Professors:

Director of the Writing

Nuala Archer Center:
Louis Barbato

Rachel Carnell Mary Murray

Gary R. Dyer,

Director of Graduate Studies
Gary Engle
Jeff Ford
Adrienne Gosselin
Ted Lardner
David Larson
Donna Burns Phillips
Sheila Schwartz

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#### INTRODUCTION

The Master of Arts in English offers two concentrations: literature and creative writing. The literature concentration emphasizes research and the application of various critical approaches to problems in literature and composition. The creative writing concentration emphasizes professional writing and the analysis of literary works from the point of view of the practitioner. Both concentrations provide graduate students with course work in practical criticism, electives in literature and linguistics, and opportunities for the study of composition theory and the practice of teaching writing to beginning students.

The program is designed to meet the needs of part-time and full-time students. Core courses and graduate seminars are offered in the evenings. Students are advised to take their core course requirements during their first two semesters of graduate study.

The Master of Arts program in English is governed by a departmental Committee on Graduate Studies, chaired by the Director of Graduate Studies. The Committee on Graduate Studies administers admission of new students, appointment of graduate assistants, selection of Andrews Award winners, student petitions, and policy issues concerning the Master of Arts curriculum.

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# **FACULTY RESEARCH & RESOURCES**

The graduate faculty of the English Department have published over 30 books and several hundred major articles in the fields of literary scholarship, linguistics, and critical theory. The range of research interests is illustrated by a partial list of books published by the faculty. Medieval and Renaissance studies

are represented by Glending Olson's Literature as Recreation in the Later Middle Ages (Cornell University Press), Earl Anderson's Cynewulf (Fairleigh Dickinson University Press), David Richardson's The Spenser Encyclopedia (University of Toronto Press), and Richardson's four volumes of Sixteenth-Century British Nondramatic Writers in the Gale Research Dictionary of Literary Biography. Nineteenth-century and modern studies are represented by Gary Dyer's British Satire and the Politics of Style (Cambridge University Press), Adrienne Gosselin's Multicultural Detective Fiction: Murder from the "Other" Side (Garland), and Batya Weinbaum's Islands of Women and Amazons: Representations and Reality (University of Texas Press). Critical theory is represented by John Gerlach's Closure and Structure in the American Short Story (University of Alabama Press), Earl Anderson's Grammar of *Iconism* (Fairleigh Dickinson University Press), and Jennifer Jeffers' Contextualizing Aesthetics: From Plato to Lyotard (Wadsworth Publishing). Linguistics and philology are represented by John Greppin's Medieval Arabic-Armenian Botanical Dictionary (Vienna: Mechitaristen-Buchdruckerei), The Diffusion of Greek Medicine into the Middle East and the Caucasus (Caravan), and 14 other books.

The creative-writing faculty have published poetry, fiction, and creative non-fiction in dozens of creative-writing periodicals. Book titles include, in the field of fiction, Sheila Schwartz's *Imagine a Great White Light*, winner of the Pushcart Editor's Book Award, and Neal Chandler's *Benediction* (University of Utah Press), and, in the field of poetry, Nuala Archer's *From a Mobile Home* (Galway: Salmon Press).

The English Department is home to The Poetry Center, which has published more than 125 poetry books since 1971 and averages three new books a year. Recent publications include Gaspar Pedro Gonzalez's *A Dry Season: Poems in Q'anjob'al Maya* (one of the few books of contemporary Mayan poetry to be published anywhere), Alison Luterman's *The Largest Possible Life*, and Ohio poet Nin Andrews' *The Book of Orgasms*. The Poetry Center has won several national and regional awards for its publications. Carol Potter's *Short History of Pets* won the 2001 Balconnes Prize for Poetry. Jared Carter's *After the Rain* won the 1995 Poets' Prize. In 1996, The Poetry Center's *Off the Page*, a videotape of performance poetry, won the Ohio Board of Regents' W. E. B. DuBois Award for Service to the Community.

The English Department houses four journals: the *Annual of Armenian Linguistics; Raft: a Journal of Armenian Literature and Criticism; FEMSPEC*, an interdisciplinary journal of fantasy-literature seen from a feminist perspective; and *Whiskey Island*, a student-edited literary magazine.

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FINANCIAL ASSISTANCE

Graduate assistantships in English provide students with an opportunity to teach in the Writing Center, assist faculty on editorial or other academic projects, and in some cases to teach Freshman English classes. All graduate assistantships provide tuition waivers and a stipend. A few tuition waivers may be available for part-time students. Students must apply by February 1 in order to be considered for a graduate assistantship in the following academic year. The department also provides tuition scholarships as prizes in annual creative-writing contests and an annual Andrews Award, a cash prize (normally \$1,000) to assist a graduate student in the completion of a thesis of exceptional merit.

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#### **CAREER INFORMATION**

Students who are pursuing the M.A. in English as a means of enhancing their teaching careers should select the literature concentration but should also take ENG 512 Craft of Literature. Students who are taking the M.A. as preparation for doctoral study in English should select the literature concentration, should take as many research seminars (ENG 695) as possible, and should take ENG 506 Composition Theory in order to enhance their eligibility for doctoral teaching assistantships at other universities. This course of study is also recommended for students who are preparing for careers teaching writing or administering writing centers in community colleges and schools. Cross-listed electives in linguistics are offered for students who are pursuing Teaching English to Speakers of Other Languages (TESOL) endorsement concurrently with the M.A. in English. The creative writing concentration is recommended for students who desire increased competitiveness in creative and professional writing fields or in allied careers in editing, communications, and public relations.

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#### **ADMISSIONS INFORMATION**

To be admitted to the M.A. program in English, an applicant must have a baccalaureate degree from an accredited college or university with an overall grade-point average of 2.75 or higher and a 3.00 average in courses in English. Applicants must provide transcripts of all previous college work, two letters of recommendation, and a writing sample. Applicants desiring admission to the literature concentration should submit a sample of academic writing, normally a research paper from an undergraduate literature course. Applicants desiring admission to the creative writing concentration should submit a portfolio of their creative work in addition to an analytical paper. Admission to the creative

writing concentration is a separate decision made by the creative writing faculty once a student has been admitted into the M.A. program.

An applicant whose undergraduate major was in a field other than English may be required to take a certain number of undergraduate English courses or <u>ENG</u> 500 and <u>ENG</u> 501 as a condition for admission to the M.A. program. These courses do not count toward degree requirements.

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#### **CROSS-REGISTRATION**

Students may petition the Committee on Graduate Studies to take up to eight elective credits in graduate courses outside the English Department, in cases where such courses meet the students' particular research needs. A student combining TESOL endorsement with the M.A. in English, for example, may be allowed to count graduate-level Methods in TESOL as English electives.

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#### LITERATURE CONCENTRATION

# **Degree Requirements**

(33 credits minimum)

- 1. Core courses (eight credits): ENG 510 and ENG 511.
- 2. Graduate seminars (eight credits): <u>ENG 695</u> (taken twice, with change of topic).
- 3. Electives (12 credits): courses numbered <u>ENG 506</u> and higher; at least one additional graduate seminar is recommended.
- 4. Thesis (five credits): <u>ENG 699</u>. To earn these credits, the student must prepare an acceptable master's thesis of 30 to 50 pages, written under the direction of two English graduate faculty members.
- 5. A successful master's examination based on the student's thesis topic.

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#### CREATIVE WRITING CONCENTRATION

# **Degree Requirements**

(33 credits minimum)

- 1. Core courses (eight credits): ENG 510 and ENG 512
- 2. Graduate seminars (eight credits): <u>ENG 695</u> (taken twice, with change of topic); creative writing students may substitute <u>ENG 535</u> or another modern or contemporary literature course for one of the 695 seminars.
- 3. Electives (12 credits): courses numbered <u>ENG 506</u> and higher; at least one creative writing course (<u>ENG 580</u> or <u>ENG 602</u>) is recommended.
- 4. Thesis (five credits): <u>ENG 699</u>. To earn these credits, the student must be accepted into the creative writing program and must prepare a successful master's creative writing project under the direction of two English graduate faculty members, viz., a collection of short stories, essays, or poems, or a play or part of a novel, judged to be of high quality.
- 5. A successful master's examination based on the student's creative writing project.

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# COMPOSITION COURSE REQUIREMENTS FOR TAS

Graduate students who are beginning as teaching assistants must take <u>ENG 506</u> (four credits) and <u>507</u> (one credit). Graduate students who completed ENG 308 Composition Theory as undergraduates are required to attend <u>ENG 506</u> sessions in fall semester but should not register for credit for this course. Graduate students who completed four credits of ENG 309 Writing Center Practicum as undergraduates are required to attend <u>ENG 507</u> workshops in fall semester but should not register for credit for this course.

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# Master of Arts in History

# **Department of History**

Rhodes Tower 1915 (216) 687-3920 www.csuohio.edu/history/gradprgm.htm www.csuohio.edu/art/ah.htm

#### **FACULTY**

# **Professors:** Assistant Professors:

David Adams

Donald Ramos, Chair

William I. Shorrock

Associate Professors:

Mary Wren Bivins

Gregory Conerly

Thomas Humphrey

Robert Shelton

Karen Sotiropoulos

David J. Goldberg
Thomas L. Hartshorne, *Emeritus*Mark T. Tebeau
Laura Wertheimer
Regennia Williams

Elizabeth Lehfeldt Lee Makela

LCC Wakcia

Joyce M. Mastboom

Deborah Pearl Robert Wheeler

# **Additional Program Faculty:**

Ron Haybron Dillard Poole José Sola Return to top

#### INTRODUCTION

The Master of Arts program in History offers advanced training in American and European history. The program is particularly well-suited for pre-doctoral students, for secondary school teachers seeking additional enrichment, and for those interested in pursuing careers in public history. Close student and faculty contact is encouraged through a combination of lecture-discussion courses and research and reading seminars that are designed to broaden and deepen the students' historical knowledge and provide training in history as a scholarly discipline. The department has developed new courses in the fields of Early Modern European History, American and European Social History, African-American History, Atlantic History, and Public History. Advanced M.A. candidates are eligible for internships in archival management at *The Cleveland Press* collection of Cleveland State. Other internship opportunities also are frequently available.

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# **ADMISSION REQUIREMENTS**

In addition to Graduate College requirements for admission, applicants to the History program must have:

- 1. An undergraduate major in history with a GPA of 3.00 or better, or sufficient undergraduate history courses with grades of B or better to serve as an indicator of probable success in the graduate history program. If possible, the applicant should secure letters of recommendation from professors from whom the applicant has taken advanced undergraduate history courses.
- 2. Results of the Subject Test of the Graduate Record Examination (GRE) are desired from all applicants. GRE test results are required, however, for applicants who do not meet the College of Graduate Studies requirement of a 2.75 GPA for admission.

Under special circumstances, an applicant may remediate undergraduate deficiencies by enrolling as a non-degree student. Non-degree students must achieve a graduate GPA of 3.00 or better for 12 credit hours in approved courses to qualify for admission.

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#### FINANCIAL ASSISTANCE

The Department of History offers a number of graduate assistantships and internships to complement full-time study. Assistantships and internships require 20 hours of service per week to the department. Graduate assistant responsibilities include tutoring students, assisting professors in the preparation of lectures and discussions, and working on departmental programs. Additional financial assistance is available through various internship programs.

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# **CAREER INFORMATION**

The History M.A. program is intended to prepare students for entry into doctoral programs in history and art history. Graduates of the program also are prepared for secondary-level teaching in history and social studies, as well as careers in public history (i.e., the practice of history in a non-academic setting), archival management, and historical preservation.

In addition, the master's program in history develops a variety of skills that are basic to success in many careers in business and other professions. Recent graduates have demonstrated skills in conceptualization, research, analysis, and oral and written communication in careers in banking, the media, insurance, journalism, law, marketing and advertising, publishing, and government service.

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#### **FACULTY & RESEARCH PUBLICATIONS**

All members of the graduate faculty participate in the activities of local and national historical associations and are active in research and publication in their fields of specialization. In recent years, faculty members have made important scholarly contributions in the form of books and articles on diverse topics, such as medieval maritime history, Brazilian family structure, a biography of President Garfield, European exploration in colonial Africa, social protest in Tudor and Stuart England, African-American community life, French diplomacy in the 1930s, U.S. gender history, Russian revolutionary and workers' movements, American labor and immigration history, American popular culture, the emergence of capitalism in the Netherlands, and the Japanese reaction to U.S. immigration laws. The M.A. program is designed to

encourage students to interact closely with faculty in their areas of interest. Through research and reading seminars, independent study, and/or the writing of a master's thesis, students are encouraged to develop independent research and writing skills.

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# **DEGREE REQUIREMENTS**

Students may pursue either of two plans for the Master of Arts degree in history. Plan A requires the writing of a thesis while Plan B requires additional courses in lieu of a thesis. The prospective student selects one of the programs in consultation with the Graduate Program Director.

For both plans, students are required to complete a total of 32 credit hours in approved courses with at least a 3.00 grade-point average. Depending on their undergraduate preparation in history, students, with approval, may take up to eight credit hours in courses outside of the History Department. For the policy on transferring credit from another institution, see the section on Transfer Credit in this Catalog.

Upon admission, each student must consult with the Director of Graduate History Studies in order to establish a general plan of study. <u>HIS 697</u> Independent Study in History can be taken only with the approval of the Graduate Program Director.

# Special Requirements for Plan A

- 1. A minimum of 24 credit hours in 600-level courses, which must include:
  - a. <u>HIS 601</u> Introduction to Graduate Study in History and <u>HIS 695</u> Research Seminar in American, European, or Social History.
  - b. A minimum of two reading seminars (eight credits).
  - c. Thesis (up to eight credits).
- 2. The remaining eight credit hours may be taken at the 500 level.

# Special Requirements for Plan B

- 1. A minimum of 16 credit hours in 600-level courses, which must include:
  - a. <u>HIS 601</u> Introduction to Graduate Study in History *and* <u>HIS 695</u> Research Seminar in American, European, or Social History.
  - b. A minimum of two reading seminars (eight credits).

The remaining 16 credit hours may be taken at the 500 level, including Art History courses.      Return to top
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# Master of Music

# **Department of Music**

Music and Communication 332 (216) 687-2033 www.csuohio.edu/music/masters.html

### THE FACULTY

## **Professors:**

J. Heywood Alexander, *Emeritus* Harp: Jocelyn Chang

Albert Blaser

Rudolph Bubalo, Emeritus

Julius Drossin, *Emeritus* 

Judith Eckelmeyer

John A. Flower, Emeritus

Edwin London, Emeritus

William R. Martin, *Emeritus* 

**Howie Smith** 

#### **Associate Professors:**

Betsy Burleigh

Mary Friedman, Emerita Ernest L. Hisey, *Emeritus* 

Rita Klinger

# **Applied Music Faculty (cont.):**

Jazz Drums: Robert McKee

Jazz Piano: Rock Wehrmann

Oboe: David McGuire

Organ:

**Daniel Hathaway** 

Margaret Scharf

Percussion:

Matthew Bassett

Tom Freer

Piano:

Daniel Barber Angelin Chang Christine Hill Jeanne Meszoros

Maria Pla

Howard Meeker Andrew Rindfleisch Eric Ziolek, Chair

#### **Assistant Professors:**

Greg D'Alessio Angelin Chang Elizabeth Unis Chesko

# **Applied Music Faculty:**

Bass: Harry Barnoff
Bassoon: Jonathan Sherwin
Cello: Bryan Dumm
Clarinet: Louis Gangale
Theodore Johnson
Flute: Sean Gabriel

French Horn: Alan DeMattia

Guitar:

George Bachmann Robert Fraser Margarita Shevchenko

Saxophone: George Shernit Howie Smith

Trombone: James Taylor

Trumpet:

Charles Couch Geoffrey Hardcastle Tuba: Gary Adams

Viola: Michelle George-Smith

Viola da gamba: Janet Winzenburger

Violin:

Erich Eichhorn Molly Fung-Dumm

Voice:

Elizabeth Unis Chesko

B. Neil Davis William Dempsey Eileen Moore Noriko Paukert

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#### INTRODUCTION

The graduate degree program in music offers specializations in Composition, Music Education, Music History, Music History with a concentration in Ethnomusicology, and Performance. Cross-disciplinary study among these specializations is encouraged.

The Music Department offers outstanding facilities: a state-of-the-art building houses two performance halls, 3 large rehearsal halls, two chamber music rehearsal rooms, 4 electronic music/computer laboratories, and dozens of practice and specialized teaching spaces. Cleveland is one of the outstanding centers for music in the United States, and students have many opportunities to observe and study with some of the finest performers in the world. A number of members or former members of the Cleveland Orchestra teach at the University, and Cleveland State vocal ensembles perform annually with the Orchestra. The renowned Cleveland Chamber Symphony, which is devoted to performing contemporary music, is in residence at the Cleveland State Department of Music. Composition students are able to have their works performed by the Cleveland Chamber Symphony and by New Music

Associates, a University ensemble specializing in contemporary music. Opportunities to perform early music, both vocal and instrumental, are available through Collegium Musicum and through private study. Internships for teaching college-level music are offered for students wishing to pursue an academic career. Workshops on Orff, Kodaly, and other approaches to music education are offered during the academic year and as part of the Summer Arts Institute through the Community Music Enrichment Program for music educators who wish to continue their studies. Urban ethnic music is a subspecialty within Ethnomusicology. The annual Thyagaraja (Aradhana) Festival at Cleveland State is the largest international festival of Indian music held outside of India.

Through its core and specialized courses, Cleveland State's graduate music program is designed to provide solid musical training and to prepare students for careers in their area of specialization. The program is an excellent foundation for doctoral study. Students have gone on to careers in composition, arranging, conducting, choral music, electronic music, musicology, criticism, performance, library science, and teaching at the university level and in elementary and secondary schools. Cleveland State students have won awards for international study and have received appointments overseas. The music program attracts international students as well as students from across the United States.

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#### FINANCIAL ASSISTANCE

The Music Department offers graduate assistantships, which pay tuition plus a stipend, and tuition grants without stipend. To be eligible, students need a grade-point average of at least 3.00. Applications must be received by March 31 for the following academic year. Application forms are available from the Music Department. Further details on requirements and service obligations are in the Music Department's *Graduate Handbook*.

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# **ADMISSION REQUIREMENTS**

Admission or transfer into the Music Department at the graduate level occurs after a conference with the head of the area in which the student expects to specialize. Contact the Music Department at (216) 687-2033 for an appointment. The Music Department has different entry requirements for each of the areas of specialization:

**Performance:** An audition is required prior to admission for all students who wish to specialize in performance. In the audition, which should be 15 minutes or longer, the student must demonstrate performance proficiency with some stylistic breadth. An audio tape or videotape may be provided in lieu of a live audition, with prior approval of the Music Department.

**Composition:** Applicants must submit a portfolio of representative works for evaluation.

**Music History:** Applicants must submit one or more samples of writing on a topic in music history. Evaluation will be based on strength of content and on the use of the English language and appropriate scholarly apparatus.

**Music Education:** The two required letters of recommendation must be from supervisory personnel who can attest to the applicant's teaching ability.

All applicants are administered a diagnostic advisory examination in music history and theory. Those not passing the examination will be required to take MUS 511 and/or MUS 512. The examination must be taken before the student's first registration. Arrangements can be made by contacting the Director of the Graduate Program at (216) 687-2035. Students who wish to change from Non-Degree status to degree-seeking status should consult the Degree Admission section of this Catalog.

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# **DEGREE REQUIREMENTS**

A candidate for the Master of Music degree must fulfill a total of 30 credit hours in approved graduate courses, including:

Core courses (nine credits)

Requirements for areas of specialization:

Thesis/exit requirement (six credits)
Courses (12 to 18 credits)
Electives (3 to seven credits)

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#### JURIES

Students specializing in performance must be evaluated by an advisory jury in the student's major applied area before completion of six hours in the applied major study.

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# **EXIT REQUIRMENTS**

Please refer to course descriptions for MUS 632, MUS 633, and MUS 635 (recitals) and MUS 679, MUS 689, MUS 698, and MUS 699 (theses and research projects) and the Music Department's *Graduate Handbook* for further guidelines.

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# LANGUAGE REQUIREMENT

Those who intend to specialize in music history or in performance (voice or choral studies) must satisfy the appropriate language requirements.

For music history students, this consists of successful completion of a proficiency examination in a language, other than English, which is most closely associated with the student's research interests, preferably French or German, or completion of two years of study of one foreign language at the college level with the grade of C or better.

For performance majors in choral conducting, the language requirement consists of an oral demonstration of proficiency in diction in liturgical Latin, German, French, and Italian.

For voice students, the language requirement consists of an oral demonstration, through the recital requirement, of proficiency in diction in Italian, French, and German.

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#### **EXIT PROJECT**

A student's graduate program culminates in a suitable exit project (e.g., a thesis or a recital) arranged through a principal advisor and reviewed by a committee of 3 faculty members. A student in music education may complete 3 suitable papers in lieu of a thesis.

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#### **EXAMINATION**

A comprehensive examination is required for all candidates. The examination serves as an opportunity for both the candidate and the department to assess the student's ability to synthesize the content of the degree, both in breadth and in the area of specialization. Successful completion of this examination is a requirement for graduation. Scheduling of the examination is arranged by the Director of the Graduate Program.

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#### **GRADUATE HANDBOOK**

The Music Department's *Graduate Student Handbook* is the definitive source for current curriculum requirements and course listings.

All graduate music students are urged to obtain the Music Department's *Graduate Student Handbook* for further clarification of the degree requirements listed below and/or changes in the curriculum.

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#### **COURSE AVAILABLITY**

Please refer to the Music Department's *Graduate Student Handbook* for the availability of courses. Not all courses are offered every semester. Return to top

#### MASTER'S DEGREE COURSE WORK

# I. Core Courses

MUS 514Introduction to World Musics(3 credits)MUS 595Music History Seminar(3 credits)MUSAnalytical Techniques(3 credits)602

# II. Required Courses for Areas of Specialization

# A. Composition

MUS 520 Composition (2 sem - tot of 6 cr)

MUS 521 Composition Forum (2 sem - tot of 2 cr)

MUS 527 Computer Music & MIDI I (3 credits)

MUS 528 Computer Music & MIDI II (3 credits)

MUS 635 Composition Recital (2 credits)

MUS 689 Composition Thesis (4 credits)

600-level Electives (3 credits)

# **B.** Music History

MUS 595 Music History Seminar (two courses in addition to the core, for a total of six credits)
MUS 600 Musicology Topics (3 credits)
600-level Applied Music (two credits)
MUS 699 Thesis (six credits) Electives (4 credits)

# Ethnomusicology concentration

MUS 593 Special Topics (two seminars in ethnomusicology, for a total of six credits)
MUS 600 Musicology Topics (3 credits)
MUS 696 Independent Study: Field Study (3 credits)
MUS 699 Thesis (six credits)
Electives (3 credits)

#### C. Music Education

(vocal, instrumental, and supervision concentrations available)

MUS 554 Foundations and Principles of Music Education (3 credits)
 MUS 584 Seminar in Music Education (3 credits)\*\*
 MUS 611 Research Techniques in Music Education (4 credits)
 MUS 679 Research Projects in Music Education (3 paper option)

orMUS 699 Thesis (six credits)

600-level Applied Music (two credits)

Electives (3 credits)

\*\*3 credits of Music Education Workshops may be substituted for the Seminar in Music Education. Within the guidelines of the Graduate College rules and regulations dealing with transfer credits, workshops offered by institutions other than Cleveland State may apply toward this facet of the degree with approval of the Cleveland State Music Education Coordinator.

# D. Performance

600-level	Applied Music (two courses, for a total of 4 credits)
MUA 603	Recital Preparation (two courses, for a total of 4
credits)	
<u>MUA 605</u>	Performance Pedagogy (two credits)
MUA 606	Repertoire (two credits)
MUS 632	Solo Recital (two credits)
Electives	(seven credits)

## **III. Other Courses**

MUS 510	The Business of Music (3 credits)
<u>MUS 511</u>	Music History I (3 credits)
<u>MUS 512</u>	Music History II (3 credits)
MUS 515	World Music Studies (3 credits)
MUS 551	Orchestration (3 credits)
MUS 556	Lyric Diction (3 credits)
MUS 575	Workshop (variable credit)
MUS 576	Extended Workshop (variable credit)
MUS 589	Colloquium (variable credit)
MUS 593	Special Topics (variable credit)
MUS 615	Teaching College Music (two credits)
MUS 621	New Music Repertoire (two credits)
MUS 698	Master's Project (one to six credits)

# **IV. Performing Ensembles**

All ensembles are one credit

MUS 501	<b>University Chorus</b>
MUS 502	Band/ Wind Ensemble
MUS 503	Collegium Musicum
MUS 504	University Orchestra

<u>MUS 505</u>	CSU Chorale
MUS 506	Chamber Ensemble
MUS 507	Jazz Ensemble
MUS 508	Opera Workshop

MUS 509 New Music Ensemble

# V. Applied Music

See MUA listings in the "Courses" section. There is a surcharge fee for all MUA courses.

# VI. Electives

Any of the courses listed above under II. (Required Courses for Areas of Specialization), III. (Other Courses), IV. (Performing Ensembles), and V. (Applied Music) may, if appropriate, be taken as electives. Electives from other disciplines may be used to meet degree requirements with approval of the department.

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# philosophy





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# Master of Arts in Philosophy

# **Department of Philosophy**

Rhodes Tower 1932 (216) 687-3900 www.csuohio.edu/philosophy/MAprog.htm

#### **FACULTY**

#### **Professors:** Associate Professors:

Joseph P. DeMarco
Jane L. McIntyre, *Chair*Nicholas J. Moutafakis
Nelson Pole
Samuel A. Richmond
Alan S. Rosenbaum
Mary Ellen Waithe

Michael R. Baumer Diane L. Steinberg Lee F. Werth

#### **Assistant Professors:**

Martin Harvey Allyson Robichaud

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#### INTRODUCTION

The Master of Arts in Philosophy program provides an opportunity for

graduate study to individuals with a serious interest in philosophy. Inquiries are welcome from students whose primary background is in another field or academic discipline. The program regularly offers courses in all the major areas of philosophy, meeting the needs of those who are preparing to enter a Ph. D. program as well as those studying for personal or professional enrichment.

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#### FACULTY RESEARCH AND PUBLICATIONS

Faculty members of the Department of Philosophy currently are writing and conducting research in the fields of applied ethics, including bioethics and engineering ethics; social and political philosophy; theories of justice; philosophy of law; theories of human rights; philosophy of language; philosophy of science; history of philosophy; and metaphysics. Faculty members regularly publish the results of their research in national and international philosophical journals and in books and monographs.

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### FINANCIAL ASSISTANCE

The department awards several teaching assistantships each year. A student interested in applying for an assistantship should write a letter to the Graduate Advisor requesting consideration when he or she submits an application for graduate admission.

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#### **CAREER INFORMATION**

Graduates of the Master of Arts in Philosophy degree program have gone on to successfully complete Ph.D. programs; others teach at the community college level. A copy of the American Philosophical Association publication, *Careers for Philosophers*, describing non-academic careers, is available for reference in the Philosophy Department office.

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#### ADMISSION INFORMATION

To be admitted to the master's degree program in philosophy, the student must satisfy Graduate College requirements for admission. Although an undergraduate major in philosophy is not required, some study in philosophy beyond the introductory level is strongly recommended. Background in the history of philosophy and in logic is especially important, and deficiencies in these areas should be made up early in the student's graduate career.

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# **DEGREE REQUIREMENTS**

All students must meet University degree requirements stated in the front section of this Catalog.

# **Core Requirements**

- 1. Thirty-two credits are required for graduation. These must include at least one course in two of the following areas:
  - a. Philosophy of science, metaphysics, or epistemology.
  - b. Ethics, aesthetics, or social and political philosophy.
  - c. Logical theory.

The remaining courses must be selected in accordance with either the thesis option or the non-thesis option.

- 2. Every student must pass a written comprehensive exam.
  - a. Students in the general M.A. program must demonstrate proficiency in the history of philosophy. The examination is divided into two parts: 1) Ancient and Medieval Philosophy and 2) Modern and 19th-Century Philosophy. The two parts may be taken in different semesters. Students may not take either part of the examination more than three times. A reading list for preparation for the examination is available in the departmental office. Works on the reading list are also regularly covered in the department's seminars on prominent philosophers (PHL 505).
    Students are not expected to take the examination prior to completing 16 hours of graduate work.
  - b. Students in the bioethics concentration will be examined on the history of ethics, ethical theory, and bioethics.

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#### THESIS OPTION

Before registering for PHL 699 (Thesis), students must receive formal approval of their proposed thesis topic from the department and the Graduate College. Students should consult with the graduate advisor in the semester prior to their first registration for PHL 699. The program for students who elect to write a thesis must meet the following conditions:

- 1. A minimum of 24 credits in courses other than PHL 614, PHL 689, PHL 691, PHL 696, and PHL 699.
- 2. No more than eight credits at the 400 level.
- 3. No more than eight credits for research and thesis courses (PHL 696 and PHL 699).
- 4. Completion of an acceptable thesis under the direction of a departmental member. Three copies of the thesis must be submitted to the Graduate Advisor at least six weeks prior to the expected date of graduation. Three readers, including the thesis advisor, will examine the student in an oral defense. One reader will be chosen from an outside discipline related to the thesis topic. The endorsement of the thesis by all three readers will constitute formal acceptance by the department. Two bound copies of the thesis are required by the department.

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#### NON-THESIS OPTION

The program for students who elect the non-thesis option must meet the following conditions:

- 1. A minimum of 28 credits in courses other than <u>PHL 614</u>, <u>PHL 689</u>, <u>PHL 691</u>, <u>PHL 696</u>, and <u>PHL 699</u>, three of which must be courses requiring substantial papers.
- 2. No more than eight credits at the 400 level.
- 3. No more than four credits of PHL 699.

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#### **CONCENTRATION IN BIOETHICS**

Students who complete the core requirements in Philosophy and the requirements for Bioethics Certification (see Graduate Certificate in Advanced Study in Bioethics section of this *Catalog*) can receive a Master of Arts in Philosophy with Concentration in Bioethics. Students in this concentration must take the Bioethics comprehensive examination.

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# spanish





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# Master of Arts in Spanish

# **Department of Modern Languages**

Rhodes Tower 1619 (216) 687-4645 www.csuohio.edu/mod\_languages/gradprog.htm

#### THE FACULTY

**Professors:** Associate Professors: Assistant Professors:

José J. Labrador
Laura Martin
Anita K. Stoll, Chair
John M. Purcell,
Emeritus

Delia V. Galván
Philippa Brown Yin,
Graduate Program
Director

Antonio Medina-Rivera Gabriela Olivares-Cuhat

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# INTRODUCTION

The Master of Arts program in Spanish provides advanced study in Hispanic language, literature, and culture to individuals preparing for, or involved in, a career in teaching or in other professional programs, such as law and international business. The program meets the needs of students seeking a terminal master's degree and those who are preparing to enter a Ph.D. program,

as well as individuals studying for personal enrichment or professional advancement.

The Master of Arts in Spanish degree program is housed in the Department of Modern Languages. The department also offers courses in support of the Master of Education degree with a specialization in Curriculum and Instruction in French, German, and Spanish. Thus, students have the opportunity to be part of a larger group of graduate students and to take related courses, when appropriate, in other language or focus areas.

The program is organized to support both full-time and part-time students, and particularly those holding teaching positions. Courses are offered throughout the academic year and during the summer. Study abroad programs in the summer allow full-time immersion in a Hispanic culture and intensive language study.

The Master of Arts in Spanish program has the following unique features:

- 1. A personalized program plan allows students to specialize in an area of interest and makes them consciously aware of their course work as a coherent whole.
- 2. he study abroad requirement obliges students to relate to native speakers in their own environment and to apply learning in a practical manner.
- 3. The option to include four hours outside of the Spanish area allows students to view their specialized training in a broader humanistic context. This reflects both national trends and the needs of students, especially those who are teachers and will continue in that career.
- 4. The inclusion of oral proficiency standards relates to rising enrollments in foreign language study at all levels. In addition, reassessment by the American Council on the Teaching of Foreign Languages (ACTFL) and professional associations devoted to specific languages, as well as recent trends in the general field of foreign language education, have made this inclusion timely.

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#### FACULTY RESEARCH AND PUBLICATIONS

All members of the graduate faculty are active scholars who participate in regional, national, and international associations. In recent years, members of the faculty have made significant contributions by authoring books, book chapters, and articles in a wide variety of scholarly fields.

The members of the graduate faculty publish extensively in the areas of 16th-century lyric poetry, Golden Age drama, Cervantes, the realistic novels of the 18th and 19th centuries, Hispanic-American literature with special emphasis on women writers, Mexican theater and poetry, and contemporary Peninsular poetry and prose. Faculty members also have published on foreign language education, especially the teaching of foreign literatures and language acquisition.

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#### FINANCIAL ASSISTANCE

A limited number of graduate assistantships and tuition grants are provided each year to qualified students. These students may assist in course instruction or other activities as assigned. Students interested in applying for an assistantship or graduate tuition grant should write to the M.A. in Spanish Graduate Director when applying to the program. Reference should be made to prior teaching experience and to the anticipated effect of an assistantship or graduate tuition grant on the student's plan of graduate study. An undergraduate grade-point average of at least 3.00 is required. Students who are selected as teaching assistants must take the graduate teaching methods course (SPN 631) as early as possible in their program as part of their supervised experience.

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#### **CAREER INFORMATION**

Graduates of the Master of Arts in Spanish program typically continue to be teachers in area secondary schools, teach at the community college level, or enter Ph.D. programs in Spanish. Other careers are diverse, including government service, international business, librarianship, media, and management fields.

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#### **ADMISSION INFORMATION**

In addition to Graduate College requirements for admission, applicants must meet the following criteria:

- 1. An undergraduate major in Spanish, or the equivalent as determined by the Graduate Studies Committee of the Department of Modern Languages. Students without the appropriate undergraduate major may be admitted under special status to complete the appropriate requirements. M.A. degree credit is not allowed for courses taken to fulfill these requirements. Graduate work will begin for any area as soon as appropriate course work or experience qualifies the student.
- 2. A speaking ability in Spanish equivalent to "advanced" level guidelines established by the ACTFL. Students admitted under special status based on this criterion must demonstrate ACTFL "advanced" proficiency upon completion of the summer session abroad or take additional course work beyond the program requirements until the level is achieved.
- 3. Students must submit a personal essay in Spanish. The essay must outline the applicant's professional goals and how they relate to the program. The essay is considered both as an example of the applicant's writing ability and as an expression of the applicant's professional goals.
- 4. Each student must submit a handwritten sample of work in Spanish. It may be a test, a significant homework assignment, or a term paper.
- 5. Results of the Spanish Subject Test of the Graduate Record Exam are required of applicants who completed the B.A. more than six years prior to the year of admission to the M.A. program.

After admission to the program, students may request transfer of a maximum of eight hours of graduate work completed in appropriate courses at other institutions. *Transfer credit normally is not granted for courses taken more than four years prior to admittance to the program.* Transfer credit is subject to approval by the Graduate Studies Committee of the Department of Modern Languages. Transfer credit generally will not count toward meeting the distribution requirements of the program.

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# **DEGREE REQUIREMENTS**

In addition to the graduation requirements of the College of Graduate Studies, a candidate for the Master of Arts degree in Spanish must complete a program of study for a total of 32 credit hours with a grade-point average of at least 3.00. The student works with an advisor to develop an appropriate plan of study that must be reviewed and approved by the chair of the Graduate Studies Committee and the chair of the Department of Modern Languages. The program plan should be submitted for approval as early as feasible after the student has completed eight hours of acceptable graduate work. Upon approval

of the *Plan of Study* the student becomes a candidate for the M.A. degree. The program must include the following components:

- 1. A distribution requirement composed of a course in research methods and one course each in literature, language, and culture (the three traditional divisions within the field of Hispanic studies).
- 2. A field of concentration of at least 16 credit hours constituting a coherent and focused program of study developed by the student in consultation with an advisor. Distribution courses may be applied to the field of concentration as appropriate.
- 3. A maximum of four hours of graduate-level course work outside of the Spanish area may be applied toward the M.A. degree with the approval of the Graduate Studies Committee in the Department of Modern Languages. This is not an option when a student has chosen to transfer credit from another institution or when the student has chosen to write a thesis.
- 4. Students must participate in one of the department's Summer Study Abroad Programs, which are offered alternately in Spain and Mexico. Cleveland State has formal programs for this purpose that provide University oversight, faculty, and courses in combination with the work completed in these programs abroad. Student aid and both internal and external scholarship funding may apply. The credit earned in these programs applies directly toward the degree. Study abroad undertaken on an independent basis applies under the transfer credit provision. Students with appropriate foreign experience and achievement at the "advanced" level on the ACTFL oral proficiency test may petition to be exempted from this requirement. Students for whom the study abroad experience would create a hardship may petition to develop an alternative experience in consultation with their advisors.

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#### **EXIT REQUIREMENTS**

Each student must pass final oral examinations. In addition, each student must pass written examinations covering three fields of the program reading list or must take two additional courses, which provide additional depth and breadth to the student's area(s) of concentration.

For the written examinations, students are responsible for readings in three fields to be chosen from the 15 that comprise the areas of Peninsular Civilization and Culture, Hispanic American Civilization, Language and Linguistic Studies, Peninsular Literature, and Hispanic American Literature.

With the approval of the departmental Graduate Committee, students may elect to write a thesis instead of taking eight hours of course work. Return to top [ CATALOG SITE MAP] [ SITE MAP-TEXT ONLY] [ GRADUATE CATALOG HOME]



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engineering

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#### Courses

**COURSES** 

Related courses in <u>Environmental Science</u> and <u>Modern Languages</u> (French, German, and Spanish) are found in this section.

Descriptions for <u>nursing courses</u> and <u>economics courses</u> are found in the respective degree program chapters of this Catalog. For <u>MLR</u> and <u>HCA</u> courses, see the College of Business Course Descriptions section.

#### **CURRICULUM AND FOUNDATIONS COURSES**

**EDB 555** Women and Education (four credits). Examination of sexist beliefs, attitudes, and values in schools and society, and their effects on the aspirations and autonomy of women; multidisciplinary examination of effects of socialization process on women; consideration of possible school-based remedies to sexism. Women's Studies course.

EDB 601 Educational Research (three credits). An introduction to

quantitative and qualitative methods used in educational research. Emphasis on understanding, interpreting, and critiquing research studies. The role of the socio-cultural context in research is considered. Offered every semester.

**EDB 604** Social Issues and Education (three credits). Focuses on the relationship of crucial issues in society to educational questions. Alternative purposes of education in light of the changing intellectual, social, and technological climate of modern America are considered. Offered every semester.

**EDB 606 Philosophy of Education (three credits).** Designed to familiarize students with persisting issues in the philosophy of education by examining selected topics from both a historical and a contemporary perspective. Focuses on relating theories of knowledge and learning to current educational practices, and exploring questions of value in light of various philosophies. Offered annually.

# EDB 608 School and Society in the American Past (three credits).

Historical examination of changing perceptions of the purpose and nature of education, the relationship of schools to social and economic forces, substance and impact of major school reform movements, experience of minorities in schools, the role of schooling in social mobility, and development of urban schools. Offered annually.

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### **EDB 609** Comparative and International Education (three credits).

Examines selected foreign educational systems with emphasis on the historical, sociological, philosophical, and cultural influences that have shaped their development. Special attention is given to educational practices and innovations of interest to American educators. Offered annually.

**EDB 612** Curriculum Theory and Instruction (three credits). Overview of theoretical perspectives on the development, organization, implementation, and evaluation of curriculum. Topics include philosophical, social, technological, economic, and political influences on curricular decision making; identification of curricular and instructional aims; the relationship between curriculum theory and instructional methodology; current issues in curriculum reform; issues of diversity and equity; the role of federal and state standards. Offered every semester.

EDB 620 Psychology of the Adolescent Learner (three credits). Emphasis on basic principles of human growth and the development of learners from early to late adolescence; social and school environment and the total school program as it relates to principles of human development; and the implications of research findings in the behavioral sciences. EDB 628 Psychology of Learning and Instruction (three credits). Development of cognitive-affective processes; review and evaluation of current research in attentional

processes, concept formation, motivational behavior, perception, and problem solving.

# EDB 651 Individual Projects in Education (one or two credits).

Prerequisite: Permission of department chair. Individual study at the graduate level under the supervision of a graduate faculty member.

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**EDB 671 History of Minority Education (three credits).** Examines the experience of minority groups, including Native Americans, African Americans, European Americans, Asian Americans, and Hispanic Americans, in American education in a historical context.

# EDB 675 Productive School and Classroom Discipline (three credits).

Examines four major theoretical approaches to problems of management and discipline, including 1) behavior management and practices that emerge from theories of operant conditioning; 2) socio-emotional designs based on humanistic theories; 3) group process designs with a basis in social psychology; and 4) group management designs based on research and systematic observation of classroom teachers. Familiarizes teachers with these approaches and improves their skill in applying them in the classroom.

**EDB 691** Individual Projects Comprehensive Examination (one credit). Designed for M.Ed. candidates taking the comprehensive examination who have completed all course requirements. M.Ed. candidates must be registered for one credit to take the examination and to graduate. Offered every semester.

**EDB 693** Special Topics in Curriculum and Foundations (one to four credits). Prerequisites: Undergraduate methods course in content area and permission of instructor. Exploration of a special topic through individual and group work under graduate faculty supervision.

**EDB 698** Project (one to three credits). May be repeated for a total of six credits. Registration by permission of advisor.

**EDB 699** Thesis (one to three credits). May be repeated for a total of six credits. Registration by permission of advisor.

**EDB 701** Advanced Educational Research (four credits). Continuation and extension of EDB 601. Alternative approaches to educational research, both quantitative and qualitative. Basic principles include sampling, validity, placing self in research, reductionism, hermeneutics, and interpretation. Theoretical assumptions, sources of research questions, data collection and analysis, and rhetoric are addressed.

**EDB 711** Educational Evaluation and Innovation (four credits).

Prerequisite: EDB 601. Provides knowledge and skills to conduct educational evaluations. Also focuses on research findings concerning the process of innovation and the evaluator's role in it. Offered once a year.

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EGT 512 Nature and Developmental Needs of Learners with Gifts and Talents (four credits). Study of the multi-dimensionality of giftedness history, identification, assessment, affective and cognitive characteristics with an emphasis on the diversity of learners. Topics include gender, ethnicity, race, language, underachievement, socio-economic status, and learners with handicapping conditions.

**EGT 513** Curriculum, Teaching Strategies, and Evaluation for Learners with Gifts and Talents (four credits). Prerequisite: EGT 512 and EDB 612, or permission of instructor. Ex-ploration of classroom organization and curriculum modifications to meet the needs of a diverse group of learners with gifts and talents. Programming structures, varied teaching strat-egies, and multiple evaluation methods are developed.

EGT 517 Creativity, Inquiry, and Productive Thinking (four credits). An advanced course for teachers of students with gifts and talents. Examination of the construct of creativity and of curriculum materials and teaching strategies that promote creative thinking and problem solving. An inquiry approach is modeled and examined for classroom implementation.

EGT 518 Working with Students with Gifts and Talents, Their Families, and Other Professionals (three credits). Prerequisite: EGT 512 and EGT 513. Intensive exploration of recent research literature regarding guidance needs and effective practices with students and their families. Also examines collaborative teaching techniques and models for working with other professionals. Special attention is given to the acquisition of productive interview techniques and heightened interpersonal skills for teachers. The special needs of students due to gender, ethnicity, race, language, underachievement, socio-economic status, and handicapping conditions are explored.

**EGT 519** Using Computers with Students with Gifts and Talents (three credits). Prerequisite: EGT 512 and EGT 513, or permission of instructor. Exploration of a variety of technology-based activities with particular emphasis on their applicability to curriculum for the gifted/talented audience. Topics include common curriculum paradigms in gifted education, as well as explicit, hands-on instruction with computer tools, including specialized peripherals and use of the Internet.

**EGT 580** Practicum in Gifted and Talented Education (two to four credits). Prerequisite: EGT 512, EGT 513, and permission of instructor. Specialized field experience in an approved classroom setting for gifted and

talented learners, under the supervision of a qualified teacher. Incorporates observation of classes with the planning and implementation of instruction for gifted and talented pupils.

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ETE 501 Technology Strand (two credits). Co-requisite: EDB 601. Introduces students to the basic concepts and skills of computer technologies useful for educational settings and graduate study. An overview of user interface and file handling on both Macintosh and Windows 95/98 operating systems is presented. The use of the World Wide Web for information retrieval is discussed and practiced. Communication via electronic mail and attachments is introduced. Concepts and standard procedures in the use of common word processors and spreadsheets are addressed. Once mastery is achieved among the five topics of OS (Operating Systems), the web, e-mail, Word, and Excel, students are expected to combine their skills to produce a comprehensive final project demonstrating the use of their skills in an educational context.

ETE 565 Technology in the Classroom (four credits). Prerequisite: EDB 601. Course is aimed at classroom teachers in all subject areas and at all levels. Provides an overview of and hands-on experience with major instructional uses of technology in the classroom; familiarizes students with current research in the area; and builds a moderate level of competence and confidence in designing instructional applications of technology within a given setting.

ETE 566 Technological Change and Schools (four credits). Prerequisite: EDB 601. Focuses on technological change in society and its impact on schools. Emphasizes the effective integration of technology into teaching and learning as change occurs. Students investigate major technologies and create the essential components of a school technology plan.

ETE 567 Telecommunications in Education (four credits). Prerequisite: EDB 601. Topics include advanced techniques in the use of electronic mail; procedures for searching and retrieving information from the Internet; publishing educational materials via the World Wide Web; procedures for establishing and maintaining microcomputer-based servers; simple videoconferencing; and Internet-based communications methodologies, such as avatars and online shared virtual realities.

ETE 568 Programming the Computer (four credits). Prerequisite: EDB 601. "Programming" in this context means instructing the computer to conduct complex tasks related to instruction. Focuses on the creation and use of complex macros, hypermedia, and intelligent agents. Programming languages, such as Logo and HTML, are addressed, but are not the primary focus.

ETE 595 Seminar in Computer Uses in Education (three credits). Prerequisites: ETE 565, ETE 566, ETE 567, and ETE 568. A culminating experience in the Educational Technology program. Integrates and extends

content of other specialization courses; incorporates the use of distance education technologies; requires the creation of a retrospective professional portfolio.

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# COUNSELING, ADMINISTRATION, SUPERVISION, & ADULT LEARNING

**ALD 605 Psychology of the Adult Learner (three credits).** An analysis of the developmental, social, and psychological characteristics of adults who are involved in post-secondary education and counseling. Attention is given to lifespan developmental theories, principles of human growth, and learning with special emphasis on this age group.

# ALD 606 Modern Higher Education in a Changing Society (four credits).

Assessment of the development of post-secondary education from colonial times to the present. Special focus on current trends as institutions adjust to demographic changes and other societal forces related to meeting the needs of an adult population.

# ALD 607 Adult Education in a Changing Society (four credits).

Overview of the field of adult education; study of the philosophies of adult education; discussion of historical development, future alternatives, and contemporary issues and trends as they affect adult education in diverse settings.

# ALD 631 Group Dynamics for Educational Leadership (four credits).

Application of the principles of group dynamics to work teams; task and maintenance roles in working with groups; leadership approaches in working with groups; creating a productive group climate; factors influencing group development and cohesion; group problem solving and conflict resolution.

ALD 645/745 Organizational Behavior and Change (four credits). An exploration of the organizational context of training and staff development programs in higher education, business and industry, and social service organizations. Discussion of administration, legal constraints on organizational behavior, and interrelationships of the individual, groups, organizations, and the environment. The organizational significance of leadership, motivation, decision making, conflict resolution, culture, and change theory.

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ALD 646 Human Resource Development for Adult Educators (four credits). An elective course for graduate students in the Adult Learning and Development program. Addresses the complex skills, concepts, and strategies relating to the adult teaching/learning component of human resource

development in business, education, industry, government, and voluntary organizations.

**ALD 653** The Two-Year College (four credits). Examines the history and development of two-year colleges, as well as current and future problems. Discussion of the administration and funding of two-year colleges.

**ALD 663 Planning and Implementing Programs for Adult Learners (four credits).** Theoretical and practical approaches to designing, planning, promoting, implementing, and evaluating programs, workshops, and curriculum for adult learners. Theories, principles, and methods of planning programs, assessing needs, establishing program objectives, and critically designing and evaluating programs in various facets of adult education in business, educational, and social service organizations are analyzed and practiced.

# ALD 664 Instructional Principles for Adult Learners (four credits).

Participants focus on teaching strategies, group methods, and factors that influence ways in which adults respond to and participate in learning activities. Relevant concepts, principles, and theories concerning adult education are analyzed and applied to teaching methodology. Emphasis is placed on the practical application of instructional strategies for planning and conducting educational experiences for adult learners.

# ALD 665 Student Personnel Services in Higher Education (four credits).

Overview of the philosophy, organization, administration, and current practices in student personnel with reference to orientation, housing, health services, advising, student affairs, student development, and other services.

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ALD 679 Planning, Marketing, and Budgeting in Nonprofit Organizations (four credits). Provides an overview of available resources and basic concepts relevant to planning, marketing, budgeting, and proposal writing for nonprofit organizations.

# ALD 688 Internship in Adult Learning and Development (four credits).

Prerequisite: Completion of at least two hours in program or permission of instructor. Field-based course providing an opportunity for advanced students in the Adult Learning and Development program to engage in supervised work in colleges, business organizations, and agencies.

**ALD 689 ALD Portfolio Development (four credits).** Prerequisite or corequisite: ALD 688. A capstone experience for students in the ALD program that allows them to reflect on and demonstrate their comprehensive knowledge, skills, and experiences in adult education through the development and presentation of a professional portfolio. Students who choose this course will not take comprehensive examinations. This course does not require extra hours

of students in the ALD master's program but instead becomes one of the students' electives within the program.

ALD 700 Issues in Multicultural Foundations of Urban Adult Education (four credits). An elective course for graduate students in the Adult Learning and Development program or for doctoral students enrolled in the Leadership and Lifelong Learning specialization in the Ph.D. in Urban Education program. Addresses cultural (racial, ethnic, linguistic) diversity in the adult educational context. Topics include cultural self-awareness, demographic changes and projections, problems/issues in inter-cultural educational setting(s), theoretical perspectives of multicultural education, adult education practical problems, and related strategies in handling diversity in adult education settings.

# **ALD 800** Leading Continuing Education for Professionals (four credits). Students examine and analyze the nature and function of programs for developing human resources in business, education, industry, government, social services, and voluntary organizations. Theoretical and research literature related to continuing education for professionals is analyzed and discussed.

related to continuing education for professionals is analyzed and discussed. Topics include professionalization, professional practice, professionals as learners, developing and evaluating educational programs, and the institutional context of continuing professional education.

**ALD 801** Adult Learning Theory and Research (four credits). Students in this course analyze research and theory concerning adult learning, including social and psychological aspects of adult learning, development, participation and motivation, self-directed learning, transformative learning, and recent and emerging theoretical perspectives.

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**ADM 613 School Law (four credits).** Prerequisite: ADM 614 or equivalent. Areas of law that particularly affect schools, including the education law of Ohio, constitutional law as it relates to school problems, and the law of torts as it applies to educational institutions.

# ADM 614 Administration Principles and Practice (four credits).

Overview of educational administration, including the administration process. Also includes an early field experience to familiarize students with the implementation of administrative theory in the school setting.

**ADM 615** Instructional Leadership and Pupil Personnel Administration (four credits). Development of leadership skills necessary to assist teachers in developing, implementing, and assessing instructional programs. Development of institutional policies, decision-making processes, and administrative behavior affecting students in the school.

**ADM 618 Staff Personnel Administration (2-0-2).** Prerequisite: ADM 614 or equivalent. Addresses economic, legal, and ethical principles that govern the

way in which administrators relate to faculty and staff. Topics include planning, recruitment, selection, induction, compensation, and the laws and regulations relating to each of these administrative functions.

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**ADM 637/737 Ethics in Education (three credits).** Prerequisite: Permission of instructor. Analyzes critical ethical issues in American society and their application to educational settings. Students view videos, engage in class discussions, and conduct library research. Offered occasionally.

**ADM 642/742** Collective Bargaining and Contract Management (two credits). Familiarizes prospective administrators with Ohio's Public Employee Collective Bargaining Law and the collective bargaining process. Students learn to develop collective bargaining provisions in light of current law, to research and do contract comparisons, and to use collective bargaining to achieve school and community goals.

**ADM 643/743 School Finance and Economics (four credits).** Overview of sources of public school funding with focus on state taxing and allocation issues. Analysis of federal and state legal issues pertaining to providing funds for public education.

**ADM 652/752** School Business Management and School Facilities (four credits). Prerequisite: ADM 643/743. A comprehensive overview of school business management and techniques and problems in planning and renovating educational facilities. Includes all aspects of the delivery of business-support services to all segments of the school system. Study of trends in school plant design and the examination of all school facilities, including the involvement of architects, engineers, and superintendents.

**ADM 674 Special Education Law (four credits).** Discussion and analysis of court decisions, statutes, and regulations relevant to individuals with disabilities in education.

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**ADM 676** Clinical Supervision and Professional Development (four credits). Presents several approaches for effectively supervising teachers and school personnel involved in all aspects of the teaching/learning process. This course also provides an array of plans for giving school personnel personalized, professional-growth opportunities.

**ADM 677 Legal and Policy Issues in Education (four credits).** Discussion and analysis of major legal and policy issues in education. Emphasis on judicial interpretations of relevant statutes and regulations in order to better understand the risks in education management and possible strategies to reduce those risks.

**ADM 680** Supervision Practicum (two semesters, two credits per semester). Prerequisites: Completion of a minimum of 20 semester hours; applications must be submitted and approved before registration. Each student plans and implements a field project or series of projects in the work environment.

**ADM 681 Elementary School Administration: Theory and Practicum II** (**two credits**). Prerequisites: Completion of a minimum of 24 semester hours and approved application. Students review administrative practices and procedures in elementary schools, and plan and implement a practical project or projects in their work environment.

**ADM 682** Middle School Administration: Theory and Practicum II (two credits). Prerequisites: Completion of a minimum of 24 semester hours and approved application. Students review administrative practices and procedures in middle schools, and plan and implement a practical project or projects in their work environment.

**ADM 683** Secondary School Administration: Theory and Practicum II (two credits). Prerequisites: Completion of a minimum of 24 semester hours and approved application. Students review administrative practices and procedures in secondary schools, and plan and implement a practical project or projects in their work environment.

**ADM 811** The School Superintendency (four credits). A focus on the current problems facing superintendents in their relationship with the board of education, district staff, the community, and state and federal agencies. Field experiences at the district level are an important aspect of the course.

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**ADM 830** Evaluating Educational Policymaking at the Federal and State Levels (four credits). This course explores the political factors influencing the development of policy affecting schools and universities at the federal and state levels through the study of the legislative histories of specific policies.

**ADM 831** Implementing Public Policy in Schools and Universities (four credits). This course analyzes court decisions that deal with the implementation of laws and regulations at the local level. Attention is directed to the role of courts in shaping policy and how that role interacts with the goal of schools and universities to deliver educational services.

ADM 832 Managing Change in Schools and Universities (four credits). This course covers the principles of managing change and individual leadership as they apply to colleges and universities. It covers such fundamentals as obstacles to change, culture, empowerment, leadership challenges in bringing about change, the role of technology in transforming schools, future trends for

education, adapting the workplace, and a systems approach to making change happen. Other topics to be discussed include changing systems, shared decision-making, and the development of new programs.

**ADM 833** Seminar in Urban Education (four credits). This course explores social, economic, political, and organizational factors in urban school settings that inhibit the academic development of students. Students become familiarized with changing community paradigms/structures in urban settings and corresponding changes in the education process that may lead to enhanced student achievement.

**ADM 880** Internship (two semesters, two credits per semester). Provides an opportunity for participants to engage in planned field experiences at the district level. Field activities are supervised by University staff in cooperation with district personnel.

# ADM 889 Advanced Seminar in Administration (four credits).

Prerequisites: Open only to students in the administration track of the Ph.D. program in Urban Education who have completed a minimum of 12 hours in the doctoral specialty or who have successfully completed the core and specialty comprehensive examinations. Discussion of major areas in school and non-school administration. Participant investigation and presentation of theory and research in administration based on assessment of prior learning. Practical exploration of leadership approaches and models.

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**EDA 593** Current Issues in Counseling (one to four credits). Specific topic is included in the course schedule. Provides students with the opportunity to investigate a designated topic in-depth and/or to carry out a supervised investigation within the limits of the seminar title. Group meetings enhance discussion and problem exploration. The course may be repeated with different content areas.

# EDA 651 Individual Projects in Education (one to four credits).

Prerequisite: Permission of department chair. An independent project in a selected area of education; project must be approved by and arrangements made with permission of department chair, the advisor, and a supervising faculty member. Offered every semester.

**EDA 693** Current Issues in Administration (one to four credits). Specific topic is included in the course schedule. Provides students with the opportunity to investigate a designated topic in-depth and/or to carry out a supervised investigation within the limits of the seminar title. Group meetings enhance discussion and problem exploration. The course may be repeated with different content areas.

EDA 696 Individual Projects in Education (one to four credits).

Prerequisite: Permission of department chair. An independent project in a selected area of education; project must be approved by and arrangements made with permission of the department chair, the advisor, and a supervising faculty member. Offered every semester.

**EDA 698** Project (one to four credits). May be repeated for a total of four credit hours. Registration by permission of advisor. Offered every semester.

**EDA 699** Thesis (one to four credits). May be repeated for a total of four credit hours. Registration by permission of advisor. Offered every semester.

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**EDE 558** Mediation and Dispute Resolution (two credits). The course trains participants to resolve disputes as trained mediators. A six-phase process of mediation is reviewed in which disputing parties isolate critical issues, identify commonalties, generate alternatives, and reach consensus. Focuses on practical skill and the understanding of theoretical and empirical bases of the technique. Includes lectures, demonstrations, skill-building exercises, roleplaying, and group activities. Application of the procedure to varied settings is discussed.

**EDE 604** Cultural and Social Foundations in Counseling (three credits). Provides a foundations background in current social/cultural issues, including the family as a system in society, alcohol/drug misuse and dependency, pluralistic society, the women's movement, counseling ethics, and the law as it applies to counselors.

**EDE 611** Appraisal in Counseling (two credits). An introductory study of the psychological tests most widely used in the fields of school and clinical counseling. The course includes an introduction to the practical use of psychological tests as well as material on test construction, validation, reliability, ethics, and testing in a culturally diverse society. The course is designed to train the counselor as a responsive, reflective professional who is a partner in the counseling process.

**EDE 612** Assessment for Counselors (three credits). This course further educates students about assessment instruments that can be used as part of the diagnostic and counseling process. It includes content focusing on selection, administration, scoring, and interpretation of several commonly used clinical assessment devices. Students also learn about inherent cultural biases in those instruments and develop skill in incorporation of test data into their counseling.

**EDE 616** Techniques in School Counseling (three credits). Provides students with the skills needed to administer a successful school counseling program and includes content dealing with guidance curricula, educational and career planning, supervision of testing programs, and effective models of parent and community interaction. Students learn how to design school

counseling programs that meet the needs of diverse student groups and to use technology to meet program goals.

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# EDE 617 Ethical and Legal Issues in Counseling (three credits).

Prerequisites: Admission to the master's, doctoral, or PCC program in counseling and completion of EDE 604, EDE 622, and EDE 684, or permission of the instructor. Introduction to ethical standards for the profession and to the research relevant to ethical behavior of counselors in mental health and school settings. Study of important legal developments related to confidentiality, testing, research, and supervision. Application of ethical and legal standards to complex cases. Examination of emerging ethical issues and models of ethical decision making.

**EDE 622 Individual Counseling: Theory and Process (three credits).** An overview of the stages of the counseling process and major theories of counseling. Humanistic, psychodynamic, behavioral, and cognitive theories are discussed with attention to research literature and application to diverse populations. Focus is on evaluating the strengths and weaknesses of the theories and building counseling skills through class exercises and role plays.

**EDE 623** Group Process and Practice (three credits). Prerequisite:EDE 684. Overview of group dynamics, leadership, and procedures. Examines the use of interactive groups to reach the goals of a school or agency guidance program. Students may be required to participate in group activities.

**EDE 624** Career Development and Information Services (three credits). Intensive study of the psychological and social factors in career development, as well as major theories of career development and how they influence the use of career and educational information in schools and agencies. Includes a review of major assessment tools and computer packages to assist in career decision making. Discussion of the relationship of career to other facets of development.

EDE 625 Case Studies and Interventions (three credits). Prerequisites: Admission to the graduate program in counseling and EDE 622, EDE 624, and EDE 684. A course designed to help counseling students use diagnostic information in planning appropriate counseling interventions with clients. Its goal is to familiarize students with major treatment modalities and teach them to make effective choices among them for individual clients. The role of cultural, social, and individual variables in treatment planning is emphasized and case studies are frequently utilized.

**EDE 629** Community Agency Counseling (three credits). Historical development of the community mental health services movement; analysis of current trends, practices, and issues in mental health service delivery.

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**EDE 632** Seminar in Counseling (Selected Topics in Counseling) (three credits). Prerequisite: Permission of instructor. Presentation of counseling innovations; critical examination of theory and/or research. Offered occasionally.

**EDE 633** Women and Mental Health (three credits). Provides counselors and other mental health professionals with an understanding of the changing nature of treatment modalities for women in counseling and psychotherapy. Introduces feminist theories of counseling and special topics such as victimization, dual careers, gender discrimination, reproductive issues, and midlife transition. Offered in summer.

**EDE 638/738 Family Counseling (three credits).** Prerequisites:EDE 622, EDE 623, EDE 684, and permission of instructor. Review of major theories of family development and family counseling with special attention to families in crisis. Examines research data and applications to families in a multicultural society.

EDE 670/770 Counseling Children and Adolescents (three credits). Prerequisite:EDE 622 or equivalent. Major theories and interventions in counseling children and adolescents in schools and community settings. Topics include psychoanalytic, humanistic, play-therapy, behavioral, and cognitive models of counseling children and adolescents, and issues in multicultural counseling for this population.

**EDE 678 Foundations of School Counseling (three credits).** Prerequisites: EDE 622, EDE 623, and EDE 624, or equivalents. Survey of guidance philosophy, history, and services; role and function of teachers, administrators, and counselors in relation to guidance services in K-12 school settings.

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**EDE 684** Laboratory in Counseling Techniques (three credits). Practicum in individual counseling with a focus on skill development and the establishment of a trusting counseling relationship. Students conduct actual counseling sessions with other class participants. Orientation to the role of the professional counselor in school and non-school settings is included. Must be taken in the first semester of enrollment in the counseling program. Graded on an S/F basis.

**EDE 685** Practicum/Internship in School Counseling (two semesters; three credits per semester). Prerequisites: 200 hours of field experience, departmental approval, and application two semesters in advance. Supervised field experience in school counseling, development of skills in counseling students, consulting with school personnel, interaction with parents and guardians. Emphasis on the development of individual counseling skills.

Application for internship must be submitted two semesters in advance and enrollment must begin in fall semester.

**EDE 686** Practicum/Internship in Community Agency Counseling (three credits). Prerequisites: 200 hours of field experience, departmental approval, and application two semesters in advance. Supervised field experience in community counseling with emphasis on the development of skills in individual counseling. First part of a two-course sequence, offered fall semester only.

EDE 687 Advanced Internship in Community Agency Counseling (three credits). Prerequisite: EDE 686. Supervised field experience in community counseling with emphasis on the development of skills in individual counseling. Second part of a two-course sequence, offered spring semester only.

**EDE 725/825** Advanced Career Development: Theory and Practice (four credits). Prerequisites: EDE 624 and current doctoral standing, or permission of instructor. This course further educates students on career theory, research, and practice. Content focuses on convergence of career theory, integrating theory into practice, current topics in career counseling, special populations, and assessment practices.

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**EDE 726/826 Fundamentals of Supervision and Consultation (four credits).** Prerequisite: Current doctoral standing or permission of instructor. This course provides students with the theory base and skill background to be effective clinical supervisors or mental health clinicians. Focus on the social context of urban agencies and organizations, and how supervision practice interfaces with the social and political aspects of institutional functioning. Emphasis on contrasting models of supervision and comparison of strategies between models, and how each of those models facilitates supervisee development. There also is a component on effective consultation, through which students acquire the skills necessary to assess an organization's needs, and help the organization to meet those needs.

# EDE 727/827 Advanced Family Issues in Counseling (four credits).

Prepares students to understand and treat family counseling situations that require an in-depth knowledge of research data relating to family issues in an urban setting, family life cycles, and family systems and their process of change. Challenging cases that family practitioners frequently face in clinical and school situations are discussed. Presentations, readings, and assignments are keyed to issues experienced by class members, especially those that focus on urban populations and their unique needs.

EDE 731 Psychopathology and Diagnosis for Counselors (four credits). Prerequisite: EDE 622 or equivalent, or permission of instructor. A review of major categories of psychopathology with emphasis on the behavioral,

cognitive, and affective components of human dysfunction. Emphasis on the assessment of psychopathology, research evidence, and controversies about the appropriate role of the diagnosis of mental and emotional disorders in a multicultural society. Introduction to the current diagnostic manual in use in mental health settings. Review of testing concepts and the use of testing in diagnosing psychopathology.

# **EDE 732** Seminar in Leading Interactive Groups (three credits).

Prerequisites:EDE 622, EDE 623, and permission of instructor. Group leadership for advanced counselor education students and practicing counselors. Includes at least 30 hours of field placement as a group leader along with class instruction in group-process theory and practice, philosophy of group processes, and practical approaches for implementing group programs in schools and community agencies.

**EDE 739** Counseling Supervision (three credits). Prerequisite: Master's degree in counseling or permission of instructor. Didactic and experiential training in seven core areas: models of supervision, counselor development, the supervisory relationship, supervision methods and techniques, legal and ethical issues, evaluation, and executive or administrative skills.

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**EDE 771** Using the Current Diagnostic and Statistical Manual of Mental Disorders (two credits). Prerequisite: EDE 731 or equivalent. Includes an understanding of each category of mental disturbance, criteria used to identify specific forms of disturbance, training in differential diagnosis, case studies illustrating different forms of pathology, and discussion of how treatment plans and interventions are linked to specific diagnoses.

**EDE 773** Theories of Personality and Counseling (four credits). A systematic and intensive examination of the philosophy, process, and technique of the major theories of personality, including theories of counseling and psychotherapy. Research findings related to these theories also are discussed along with their practical application.

EDE 777 Individual Intelligence Testing (three credits). Prerequisite: Admission into graduate program in counseling. The course presents the current versions of the Weschler Adult Intelligence Scale and the Weschler Intelligence Scale for Children, and the Adaptive Behavior Scale, the psychological test commonly used to assess individual intelligence and adaptive behavior in mental health settings. Instruction for competent administration, scoring, and reporting of test results is included. Also discussed are the history of intelligence testing, differential diagnosis, issues in use of these measures with culturally diverse populations, and ethical and legal issues.

EDE 778 Psychopharmacology for Counselors (three credits).

Prerequisites: EDE 622 and EDE 731. Psychological and physiological effects

of the five major classes of psychotropic drugs are examined to assist counselors in understanding the ways these drugs affect their clients. Examples of commonly used drugs in mental health settings are included with review of their effects, side effects, and impact on the counseling process. Provides knowledge essential for counselors to understand drug impact and raise informed questions when seeking psychiatric consultation. Special attention is given to medications used to treat disorders of anxiety, depression, and psychosis.

# **EDE 779** Personality Assessment for Counselors (three credits).

Prerequisite: Admission into graduate program in counseling. This course reviews the psychological test commonly used to assess individual personality functioning in mental health settings. The role of tests in assessing psychological dysfunction and treating mental and emotional disorders is discussed. Legal and ethical issues and the limitation of personality testing are examined.

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EDE 781 Internship in Counseling (three credits). Prerequisites: Admission into the Educational Specialist degree program and successful completion of Ed.S. basic core requirements in counseling and human behavior, or permission of instructor. Field-based internship in counseling for post-master's students to refine diagnostic and counseling skills, expand areas of competency, and develop abilities in counseling clients with mental and emotional disorders. Students are required to gain experience in the appropriate use of standardized tests. Field supervision is complemented by University faculty. May be repeated once.

# EDE 782 Internship in Diagnosis and Testing (three credits).

Prerequisites: Admission into graduate program in counseling, EDE 731, EDE 777, and EDE 779. The purpose of this 220-hour internship is to gain supervised experience in diagnosis of mental and emotional disorders using the DSM or related diagnostic systems and to administer and interpret personality inventories and individual intelligence tests in field settings. It is designed to help counselors understand the relationship between diagnosis, testing, and treatment planning in counseling. Interns are expected to comply with all ethical and legal standards in diagnosis and testing and to demonstrate understanding of the special considerations with culturally diverse clients.

EDE 788/888 Research and Evaluation in Counseling (four credits). A critical analysis of the current research data on the counseling process and outcome, and a review of models for effective evaluation of counseling programs. Acquaints students with the history and current status of counseling research and helps students develop competencies in critically analyzing and designing counseling research and evaluation projects. Discussion of the ethical issues in counseling research also is included.

**EDE 828** Advanced Counseling Theory Seminar (four credits).

Prerequisites:EDE 622 and EDE 731 or equivalents, or permission of instructor. This course provides an in-depth study of one theoretical approach to counseling and psychotherapy. In a discussion, experiential, seminar format, students learn advanced concepts and applications of either psychoanalytic/psychodynamic, cognitive behavioral, Gestalt, humanistic, family systems, or contemporary brief therapy models.

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# HEALTH, PHYSICAL EDUCATION, RECREATION, AND DANCE

#### **HPR Courses**

# **Program Core and Emphasis Courses**

HPR 550 Computer Applications in Health and Physical Education (three credits). Designed to help health and physical education professionals learn efficient and effective use of computers in instruction, record keeping, planning, and analysis. Focus on the identification and use of appropriate, user-friendly software packages.

**HPR 606 Human Development (three credits).** Study of physical, psychological, social, and moral development with attention to life-span events; emphasis on practical application of theory relative to understanding human abilities and how theory affects programming across the life span.

**HPR 679 Practicum for School Nurses (two credits).** Specialized field experience in an appropriate setting that provides extensive exposure to the field of school nursing. Includes a seminar and the development of a professional portfolio.

**HPR 680 Practicum (three credits).** Specialized field experience in an appropriate setting that provides extensive exposure to one of the following professional fields: community health education, sports management, exercise science, and school nurse. Includes a seminar and the development of a professional portfolio.

**HPR 681 Practicum (four credits).** Specialized field experience in an appropriate setting that provides extensive exposure to one of the following professional fields: community health education, sports management, exercise science, and school nursing. Includes a seminar and the development of a professional portfolio.

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**HPR 682 Practicum** (**five credits**). Specialized field experience in an appropriate setting that provides extensive exposure to one of the following professional fields: community health education, sports management, and exercise science. Includes a seminar and the development of a professional portfolio.

HPR 691 Individual Project: Comprehensive Examination Only (one credit). Designed for M.Ed. candidates in HPERD taking the comprehensive examination who have completed all course requirements and are not registered for any other course. M.Ed. candidates must be registered for at least one credit hour to take the examination and to graduate. Offered on a no-credit basis for a grade of N/C.

**HPR 696** Individual Projects (one or two credits). Prerequisite: Permission of department chair. Independent project in a selected area of HPERD. Project must be approved by and arrangements made with permission of project supervisor and department chair. May be repeated for a maximum of four credit hours.

**HPR 698** Master's Project (one or two credits). May be repeated for a total of six credits. Registration by permission of advisor and department chair.

**HPR 699** Master's Thesis (one or two credits). May be repeated for a total of six credits. Registration by permission of advisor and department chair.

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#### **Health Education Courses**

**HED 550** Theories in Health Education and Health Behavior (four credits). Provides the student with a broad theoretical base for the analysis of healthy/unhealthy behaviors. Research and theoretical literature are reviewed in areas such as sociocultural and environmental factors associated with health behaviors, communications, and behavior-change strategies in health education.

HED 551 Organization and Administration of Community Health Education Programs (four credits). Provides students with basic knowledge of the principles, foundations, problems, and trends in the organization and administration of community health education. Explores trends and issues relevant to health education, such as roles, ethics, applications, settings, professional standards, credentialing, and accreditation of programs.

**HED 552 Health Education Program Planning (three credits).** Stages in the design, implementation, and management of health education/health promotion programs for various populations and settings. Examines the components of a comprehensive health education program and special problems and issues related to health program development.

**HED 553** Measurement and Evaluation of Health Education Programs (three credits). Examines the rationale and procedures used to evaluate health education programs. Topics include planning evaluations, the politics and ethics of evaluation, measurement, sampling, logistics, data analysis, and the development of an ongoing evaluation project.

**HED 560** Foundations of a Coordinated School Health Program (four credits). Explores the basic principles and practices underlying the organization and administration of a comprehensive school health program. Involves an evaluation of the student's chosen school system in order to compare practice with theory. The role of the school health program in relation to the school, community, and the family is explored.

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**HED 561** Methods and Materials for Health Education (three credits). Prerequisite: HED 560 or equivalent. Introduces students to productive, creative, and innovative methods needed to implement comprehensive school health education at the grade levels. Students become familiar with organizing and presenting health content, health materials, health curricula, community resources, and technology.

**HED 565** Analyzing Health Data for Grant Writing (three credits). Emphasis on terms, phrases, and sources frequently used to design, analyze, and interpret existing health data with a focus on epidemiological investigative procedures and the development of grant proposals.

**HED 570 Pathophysiology of Disease (four credits).** The study of the etiology of diseases. Deals with progression, diagnosis, and treatment. Focuses on the body's immune defense mechanisms for both chronic and communicable diseases; applies basic principles to a variety of examples. Some anatomy and physiology course work recommended.

**HED 571 Substance Abuse Education (three credits).** Provides students with basic knowledge of the physiological, psychological, and sociological effects of substance use, misuse, and abuse. Examines factors that influence substance use, misuse, and abuse, as well as their attitudes and behaviors. Drug prevention and intervention programs are examined and evaluated.

**HED 572** Consumer Health (three credits). Examines health products and services, advertising, marketing, quackery and government control, and guidelines for consumer action when deception, misrepresentation, or fraud is encountered. Students become more informed consumers of health products and services. Implications for health education are considered.

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**HED 573 Teaching Human Sexuality (three credits).** Provides concepts and information about comprehensive sexuality education, including moral, physiological, psychological, and social aspects. Emphasis on methodology and organization of human sexuality programs for school and community settings.

**HED 574** Stress Management (three credits). Examines the role and function of stress in everyday life from physiological, psychological, and sociological perspectives. Personal, situational, and environmental sources of stress are explored along the continuum from distress to eustress. Stress management techniques are examined.

**HED 575** Nutrition and Physical Activity (three credits). Study of the relationship between nutrition, physical activity, and health. Topics include macronutrients, micronutrients, water, the role of proper nutrition for optimal physical performance, the role of nutrition and physical activity for weight control, and prevention and treatment of disease.

**HED 576** Teaching Nutrition (three credits). Explores various instructional materials and strategies available for teaching concepts of nutrition in school and community settings; provides experience in designing and implementing appropriate instructional strategies. Previous knowledge of basic nutritional concepts is recommended.

**HED 577** Social Issues and Needs in Nutrition (three credits). Study of the relationship between nutrition and the sociocultural environment. Topics include nutrition and mass media; cancer and diet; nutrients as chemopreventive agents; drug/nutrient interactions; safety and adequacy of U. S. food supply; and world hunger.

HED 696 Individual Projects in Health Education (one or two credits).

Prerequisite: Permission of department chair Independent project in a select

Prerequisite: Permission of department chair. Independent project in a selected area of health education. Project must be approved by and arrangements made with permission of project supervisor and department chair. May be repeated for a maximum of four credits.

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# SPORTS MANAGEMENT, PHYSICAL EDUCATION, AND EXERCISE SCIENCE COURSES

**PED 550 Psychology of Sport and Exercise (four credits).** Reviews the major theories of sport psychology and identifies the strategies involved in the development, maintenance, and change of sport and exercise behavior. This course focuses on both theoretical and applied research in the field of sport and exercise psychology.

**PED 551** Applied Sport Psychology (three credits). Reviews the application of performance enhancement strategies to sport. Research on psychological skills training is explored with a focus on practice and competitive strategies such as stress management, arousal regulation, attentional focus, concentration, motivation, self-efficacy, and imagery.

**PED 554 Sport Sociology (three credits).** Examines the effects of social change on the structure and function of sport in areas such as economics, politics, and the media. Using sociological theory and research, the course surveys the impact of sport on youth, education, gender, and race. In addition, the changes in the role and functions of youth sport, high school, college, and professional sports, and the Olympics are explored.

**PED 556** Individualized Physical Education for Children with Special Needs (three credits). Study of evaluative procedures used to identify the unique needs of students with disabilities in physical education; development of annual goals and benchmarks for helping students acquire motor skills; enables special educators to establish themselves as resource people. Includes a clinical experience.

# PED 560 Program Development and Management (four credits).

Provides decision makers with knowledge and skills essential to the development and management of programs. Emphasis on the principles and processes of program design, implementation, and assessment. Management, finance, economics, budgeting, purchasing, and personnel are discussed.

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**PED 561 Sport Governance (three credits).** Governance structures used in amateur and professional sports are explored. Emphasis on the International Olympic Committee, the United States Olympic Committee, and the National Governing Bodies; the National Collegiate Athletic Association; high school leagues; professional team sports leagues; and individual sport organizations.

**PED 565** Law and Policy Studies in Sport and Physical Education (four credits). An overview of the legal and social policy issues most often encountered in sport and physical activity; emphasizes tort and selected areas of constitutional, commercial, contract, labor, and intellectual property law. The law is applied to the amateur and professional sport environments, recreation and leisure activities, and to instruction and rehabilitation. Leading court decisions are explained and guide students in an in-depth study of their choice and a comprehensive risk-management presentation.

**PED 566 Sport Facility Management (three credits).** Provides an overview of sports facility planning and management, and the relationship between sport stadiums and professional sports. Planning, design, construction, operation, maintenance, security, scheduling, evaluation, and risk management of facilities are presented in detail.

**PED 567 Sports Marketing (three credits).** Identification of the sport product and an overview of marketing applied to the sport industry, including consumer behavior, the role of research in marketing and marketing management, segmentation, pricing, promotion, place, and public relations.

**PED 570** Seminar in Training and Conditioning (three credits). Study of the principles of physical fitness and conditioning programs. Focuses on methods to enhance physical fitness and/or sport performance for a variety of individuals including athletes and clinical populations. Practical experience in assessing physical fitness is obtained.

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PED 571 Biomechanics of Sport and Fundamental Skills (three credits). Introduction to the study of human movement. Focuses on balance, buoyancy, leverage, force, angles of rebound, projectiles, motion, and kinesthesis. Students analyze fundamental movement and create specialized sport skills. These factors are related to learning theory, coaching techniques, and individualization of instruction. The course enables sport management personnel to recognize efficient movement in visual media and to describe sport skills accurately; coaches and teachers learn to identify error in sport skills.

**PED 572 Physiology of Aging (three credits).** Develops an understanding of the physiological, social, and emotional changes which accompany the aging process. Emphasis on evaluation of physical, sensory, motor, and cognitive changes. Special attention is paid to developing programs for the elderly in exercise, prevention of falling, improvements in strength, and sense of well-being.

**PED 593** Special Topics in Sport Education (two to four credits). Study of current topics of interest in the discipline of sport and sport education. Specific topics and credits are based on analysis of need at the time each course is scheduled.

**PED 652** Curriculum in Physical Education (three credits). Presents the total curriculum in physical education at all levels with special attention given to the process of curriculum construction, current trends in curriculum organization, planning for instruction, and curriculum evaluation.

**PED 653** Teacher Behavior Analysis (three credits). Study of alternative teaching styles and the implications for applying each style; examination of current research on teacher role behavior; review of methods for observing and analyzing teacher behavior to increase teaching effectiveness; systems designed for teacher-student interaction in physical activity classes with emphasis on non-verbal communication.

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**PED 657 Principles of Motor Learning (three credits).** Study of the information-processing capacities of the learner and the relevant properties of the environment in an attempt to understand motor-skill acquisition.

**PED 658** Seminar in Motor Programming for Special Populations (three credits). Analysis and application of applied behavioral principles in the instructional process in movement-oriented activities with individuals with disabilities; development of evidential bases for improvement of instructional practice using applied behavioral analysis.

# PED 675 Physiology of Human Performance I (four credits).

Prerequisites: Courses in human anatomy and physiology, or equivalents. Study of human physiological function during acute and chronic exercise; emphasis on energy metabolism, circulation, respiration, and muscle function. Laboratory experiences focus on mastery of laboratory techniques and the measurement of the acute responses to exercise.

# PED 676 Physiology of Human Performance II (four credits).

Prerequisite: PED 675. Study of human physiological function during acute and chronic exercise with emphasis on gender differences, environmental factors, aging endocrine function, ergogenic aids, and research in human performance. Laboratory experiences focus on laboratory techniques and the measurement of acute responses to exercise and performance.

**PED 677 Prevention and Rehabilitation of Cardiovascular Disease (three credits).** Overview of the methods by which coronary artery disease may be prevented and rehabilitated. Topics include disease process, diagnostic techniques, risk-factor modification, electrocardiographic interpretation, exercise testing, and prescription. Program planning and design are addressed with emphasis on policy and procedure.

# PED 696 Individual Projects in Physical Education (one or two credits).

Prerequisite: Permission of department chair. Independent project in a selected area of physical education; project must be approved by and arrangements made with permission of project supervisor and department chair. May be repeated for a maximum of four credits.

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#### **ENVIRONMENTAL SCIENCE COURSES**

The Department of Biological, Geological, and Environmental Sciences offers graduate courses in support of the Master of Education program in Curriculum and Instruction. The courses are EVS 510, EVS 512, and EVS 514. The additional EVS courses listed below are designed for students in the Master of

Science in Urban Studies program. Students should consult their advisor regarding taking these courses for elective credit in the M.Ed. program. See the <u>Master of Science in Environmental Science</u> section of this Catalog for course descriptions.

EVS 506	Ecosystem Science
EVS 510	Environmental Geology for Teachers
EVS 512	Geological History of the Cleveland Area for Teachers
EVS 514	Ecosystem Science for Teachers
EVS 523	Map Interpretation and Visualization of Space
EVS 560	Geomorphology
EVS 593	Special Topics in Environmental Science
EVS 594	Special Topics in Environmental Science
EVS 680	Issues in Environmental Science

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#### MODERN LANGUAGES COURSES

The Modern Languages Department provides courses in support of the Master of Education degree in the Curriculum and Instruction Program with a specialization in foreign languages.

#### **FRENCH**

FRN 534 Studies in Language and Linguistics (3-0-3). Prerequisite: Permission of instructor. Topics to be announced in the Course Schedule; may be repeated for credit with change of topic. Linguistics Studies course. M.Ed. course.

FRN 540 Field Experience Abroad (one to eight credits). Prerequisites: Permission of instructor and departmental approval. Specially arranged field experience abroad, providing intensive exposure to students' target countries and languages; may be preceded by a special preparatory course; examples include supervised individual or group work-study experience in the target country followed by a period of travel and supervised two- to six-week group travel for students interested in a language or culture-oriented project. See the Course Schedule and contact the department office for further information. M. Ed. course.

FRN 593 Special Topics in Culture and Civilization (4-0-4). Prerequisite: Permission of instructor. Topics to be announced in the Course Schedule. May be repeated for credit with change of topic. M.Ed. course.

FRN 594 Special Topics in Literature (one to six credits). Prerequisite:

Permission of instructor. Intensive study of a particular period, theme, or author. Topics to be announced in the Course Schedule. May be repeated for credit with change of topic. M.Ed. course.

FRN 596 Independent Study (one to eight credits). Prerequisites: Permission of instructor and departmental approval. Student-initiated, supervised projects involving French language or literature; examples include in-depth study of a particular writer or specialized readings in linguistics. May be used to cover the materials of a listed course not offered in a given year. Projects arranged between individual students and instructor; title of project appears on the student's transcript. M.Ed. course.

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#### **GERMAN**

**GER 534** Studies in Language and Linguistics (4-0-4). Topics to be announced in the Course Schedule; may be repeated with change of topic. Linguistics Studies course. M.Ed. course.

GER 540 Field Experience Abroad (variable credit). Prerequisites: Permission of instructor and departmental approval. Specially arranged field experience abroad, providing intensive exposure to students' target countries and languages; may be preceded by a special preparatory course; examples include supervised individual or group work-study experience in the target country followed by a period of travel, supervised two- to six-week group travel for students interested in a language, or culture-oriented project. See the Course Schedule and contact the department office for further information. M. Ed. course.

**GER 593** Studies in Culture and Civilization (4-0-4). Topics to be announced in the Course Schedule. May be repeated for credit with change of topic. M.Ed. course.

**GER 594 Studies in Literature (4-0-4).** Topics to be announced in the Course Schedule. May be repeated for credit with change of topic. M.Ed. course.

**GER 596** Independent Study (variable credit). Prerequisites: Permission of instructor and departmental approval. Student-initiated, supervised projects involving German language or literature; examples include in-depth study of a particular writer or specialized readings in linguistics. May be used to cover the materials of a listed course not offered in a given year. Projects arranged between individual students and instructor; title of project appears on the student's transcript. M.Ed. course.

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#### **SPANISH**

See the <u>Master of Arts in Spanish</u> section of this Catalog for course descriptions.

SPN 501 Research Methods SPN 505 Advanced Grammar and Stylistics SPN 534 Studies in Language and Linguistics SPN 540 Field Experience Abroad SPN 545 Studies in Spanish Civilization SPN 546 Studies in Spanish-American Civilization SPN 564 Studies in Culture and Civilization SPN 583 Studies in Spanish Literature SPN 584 Studies in Spanish-American Literature SPN 589 Studies in Literature SPN 596 Independent Study SPN 616 Seminar in Spanish Language SPN 631 Teaching College Spanish SPN 665 Seminar in Hispanic Culture SPN 685 Seminar in Spanish Literature SPN 686 Seminar in Latin American Literature

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#### **MODERN LANGUAGES**

MLA 500 Practicum in Language (one to four credits). Prerequisites: Permission of instructor and departmental approval. Specially arranged projects or supervised experiences using non-native languages, conducted in the University and the community. Project arranged between individual instructors and students; title of the project appears on the student's transcript.

MLA 540 Field Experience Abroad (one to six credits). Prerequisites: Permission of instructor and departmental approval. Specially arranged field experience abroad providing intensive exposure to students' target countries and languages. See semester Course Schedule and contact the department for further information.

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# TEACHER EDUCATION COURSES

*See following entries:* 

# EARLY CHILDHOOD EDUCATION

Courses numbered from 500 to 510 are core course offerings within specializations. Whenever possible, they should be completed prior to enrollment in higher-level courses and may actually serve as prerequisites for same.

ECE 500 Foundations of Early Childhood Education (four credits). Prerequisite: EDC 501. Historical, philosophical, and theoretical introduction to contemporary early childhood education; overview of early childhood models and programs in the United States and other countries; survey of current issues and trends; examination of the role of early childhood models and education in the lives of children between birth and age eight and their families. Required for early childhood teaching license and pre-kindergarten endorsement.

**ECE 501 Developmental Curriculum for Early Childhood Education** (**four credits**). Prerequisites: ECE 500 and EDC 501. Study of curriculum development for educational settings that serve children from age three through the primary grades. Attention is given to developmental considerations; national and state subject-matter standards; and different curricular theories and models as well as their implementation. Required for early childhood teaching license.

**ECE 502** Teaching Methods in Early Childhood Education (four credits). Prerequisites: ECE 500 and EDC 501. Study of teaching methods for educational settings that serve children from age three through the primary grades. Attention is given to strategies for planning, teacher-child interactions, guiding children's behavior, organizing the learning environment, conducting activities, care giving, and supporting play, projects, and integrated curriculum. Required for early childhood teaching license.

ECE 503 Teaching Children with Mild and Moderate Disabilities (three credits). Prerequisites: ECE 500 and EDC 501. Introduction to educational issues related to working in regular early childhood settings with young children who have mild and moderate disabilities. Attention is given to characteristics, etiology, classification, and legal and interdisciplinary issues, as well as to curricular and pedagogical approaches for the inclusive classroom. Required for early childhood teaching license.

**ECE 511** Infant and Toddler Development and Education (three credits). Focuses on the development, care, and education of children from birth through age three. Attention is given to developmental needs, staffing considerations, individualized care, responsive environments, and home-center coordination.

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ECE 512 Collaboration with Families and Professionals in Early Childhood Settings (four credits). Prerequisites: ECE 500 and EDC 500; Co-

requisite: EST 580 (petition required). Explores the relationships between early childhood professionals and families and between early childhood professionals and other professionals. Strategies for communicating and collaborating with others and for fostering home-school connections are examined. History, philosophy, and issues related to collaboration and family involvement, including diversity, are discussed.

ECE 514 Expressive Arts in Early Childhood Education (three credits). Prerequisites: ECE 500 and EDC 501. Emphasis on the integration of music, rhythmic movement, arts and crafts, dramatics, and literature into preschool, kindergarten, and primary school curricula as a means of discovering and developing children's creative abilities and aesthetic interests.

ECE 515 Mathematics Instruction and Assessment in Preschool and the Primary Grades (three credits). Prerequisites: ECE 500 and EDC 501. Aimed at developing a philosophy and justifiable rationale for teaching and learning mathematics in preschool and the primary grades. Includes exploration of constructive processes involved in developing mathematical understanding in young children, with particular attention given to the acquisition of numeracy and problem-solving strategies. Current standards, methods, and materials for teaching and learning mathematics during early childhood are examined and evaluated.

ECE 516 Social Studies Instruction and Assessment in Preschool and the Primary Grades (three credits). Prerequisites: ECE 500, EDC 500, and EDC 501. Explores objectives, principles, trends, materials, and current practices for teaching social studies and fostering social development through early childhood education. Focuses on developmentally appropriate content and strategies for introducing young children to the study of history, geography, economics, and other social sciences.

ECE 517 Science Instruction and Assessment in Preschool and the Primary Grades (three credits). Prerequisites: ECE 500 and EDC 501. Covers the nature, scope, and role of science experiences in the learning and development of young children. Emphasis is given to a constructivist, inquiry-oriented approach consistent with national standards. Discussions, demonstrations, and experiments draw from physical, biological, and earth sciences.

ECE 518 Administration and Management of Early Childhood Education Programs (three credits). Prerequisites: ECE 500 and EDC 501. Students develop specialized administration and leadership skills for use in early childhood care centers or other settings serving young children and their families. The course emphasizes licensing regulations, NAEYC center accreditation; proposal writing; lobbying/advocacy; and such management functions as housing, equipping, financing, budgeting, and staffing centers.

ECE 695 Seminar in Early Childhood Education (four credits).

Prerequisite: 25 hours of graduate course work in early childhood education or permission of instructor. Final course in the early childhood sequence. Provides opportunities for in-depth exploration of selected topics and application of knowledge to professional settings.

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#### ELEMENTARY AND SECONDARY EDUCATION

Courses numbered from 500 to 510 are core course offerings within specializations. Whenever possible, they should be completed prior to enrollment in higher-level courses and may actually serve as prerequisites for same.

**EDC 500 Diversity in Educational Settings (three credits).** Focuses on issues related to the education of culturally and linguistically diverse children, gifted children, and children with special needs. Gender issues in education and the relation of diversity to all areas of the teaching-learning process are discussed. Course work involves the development of effective strategies for teaching all children about diversity and for promoting positive relationships among teachers, parents, and children. Required for early childhood teaching license, pre-kindergarten endorsement, and TESOL endorsement.

**EDC 501** Child Development (three credits). Emphasis on various aspects and phases of human growth and development from conception to adolescence, including physical/motor, socio-emotional, moral, and cognitive development. Attention is given to relationships among aspects of development and between development and school learning. Human Development option in the College core; required for early childhood teaching license and pre-kindergarten endorsement.

**EDC 511 Instructional Design and Delivery (three credits).** Explores theories, methods, and procedures underlying the development and design of instruction, with particular attention given to selected models of teaching and their practical application, strengths, and limitations. Other topics include the systematic analysis, design, implementation, and evaluation of instruction as a continuous integrated process; the importance of audience awareness and the learning environment in instruction planning; and the use of instructional technologies to enhance student learning and develop curricular materials.

**EDC 512** Instructional Development in Foreign Language Education (four credits). Aids practicing elementary and secondary educators in developing curriculum, objectives, classroom materials, and appropriate teaching methods. Students critically review current research and trends in relation to national and state standards for foreign language instruction.

**EDC 513** Instructional Development in English Language Arts Education

(**four credits**). Aids practicing elementary and secondary educators in developing curriculum, objectives, classroom materials, and appropriate teaching methods. Students critically review current research and trends in relation to national and state standards for instruction in the English language arts.

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**EDC 514** Instructional Development in Art Education (four credits). Aids practicing elementary and secondary educators in developing curriculum, objectives, classroom materials, and appropriate teaching methods. Students critically review current research and trends in relation to national and state standards for instruction in the visual arts.

**EDC 515** Instructional Development in Mathematics Education (four credits). Aids practicing elementary and secondary educators in developing curriculum, objectives, classroom materials, and appropriate teaching methods. Students critically review current research and trends in relation to national and state standards for mathematics instruction.

EDC 516 Instructional Development in Social Studies Education (four credits). Aids practicing elementary and secondary educators in developing curriculum, objectives, classroom materials, and appropriate teaching methods. Students critically review current research and trends in relation to national and state standards for social studies instruction.

EDC 517 Instructional Development in Science Education (four credits). Aids practicing classroom teachers by providing strategies and tools for modifying commercial curricula, enhancing teaching methods, and adapting instructional technologies. Students critically review research and trends related to continuing issues in science education.

**EDC 518 Teaching Basic Physical Science (three credits).** Considers topics from the areas of physics, chemistry, and earth/space science. Emphasis is given to enhancement of the science-content knowledge of future and practicing teachers. The course combines lecture, discussion, and laboratory activities, thereby modeling appropriate instructional practices.

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# LITERACY DEVELOPMENT AND INSTRUCTION

Courses numbered from 500 to 510 are core course offerings within specializations. Whenever possible, they should be completed prior to enrollment in higher-level courses and may actually serve as prerequisites for same.

**EDL 500 Phonics Assessment and Instruction (three credits).** Focuses on the nature and role of word recognition in proficient reading and spelling. Provides the background necessary for teaching and assessing phonics, phonemic awareness, and word recognition.

**EDL 501 Beginning and Intermediate Reading Instruction and Assessment (three credits).** Survey of methods and materials used to teach reading in elementary, middle, and junior high school settings. Includes overview of the reading process, introduction to diagnostic measures for assessing reading development, techniques for remediating reading difficulties, and critical examination of related theory and research.

**EDL 502** Foundations of Literacy: Theory and Practice (three credits). Explores the linguistic, psychological, social, cultural, philosophical, and historical bases of literacy acquisition and its development. Particular emphasis is given to current research and classroom practice. Required for reading endorsement.

**EDL 503** Assessment and Evaluation of Diverse Literacy Learners (four credits). Prerequisites: EDL 500 and EDL 502. Assessment and evaluation of literacy development, with a focus on reading, writing, and complementary language-arts processes for students of all ages. Consideration of linguistic, affective, cognitive, and physical factors that may influence encoding, decoding, comprehension, and composition and their evaluation. The construction, administration, interpretation, and critique of formal and informal assessment procedures are addressed. Course includes supervised, weekly, two-hour practical experiences with an assigned client, resulting in development of a case study. Required for reading endorsement.

**EDL 504** Literacy Development: Meeting the Needs of Diverse Learners (four credits). Prerequisites: EDL 501 and EDL 503. Supervised practice in teaching reading and writing with emphasis given to the preparation, analysis, and evaluation of individualized instructional programs based on case-study evaluations. Includes approaches for developing positive attitudes towards literacy and strategies aimed at overcoming difficulties in reading and writing development. Course requires preparation of a progress report based on weekly, two-hour practical experiences with an assigned client. Required for reading endorsement.

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**EDL 505** Reading in the Content Areas (three credits). Critique and analysis of current theory, research, and practice as they relate to content-area reading instruction. Particular attention is given to the development of comprehension, metacognitive awareness, and effective studying strategies. Also stressed are internal and external textbook-thinking skills, the integrated use of reading and writing across the curriculum, and materials and methods to promote life-long learning. Other topics include media literacy, inquiry

learning, authentic assessment, action research, and diversity issues. Required for reading endorsement.

**EDL 506** Second Language Learning and Pedagogy (three credits). The first of a two-course sequence in ESL/EFL pedagogy, this course covers theories of second language acquisition, competing methods for teaching English to speakers of other languages, psycholinguistics, sociolinguistics, and issues involving language learning in multicultural settings. Required for TESOL endorsement.

EDL 507 TESOL Methods and Materials (three credits). Prerequisite: EDL 506. The second of a two-course sequence in ESL/EFL pedagogy, this course provides critical exploration and analysis of current approaches for teaching English to speakers of other languages. Emphasis on the development of communicative competence. Consideration of the role of assessment in instructional design, student placement and advancement, as well as related legal issues. Required for TESOL endorsement.

**EDL 508 Applied Linguistics for Teachers (three credits).** Designed for practicing and prospective teachers, this course provides an introduction to linguistic theory as it relates to the language development of native and nonnative speakers of English. Emphasis is given to the practical application of linguistic knowledge in phonetics, phonology, syntax, morphology, and semantics to classroom practice. Required for TESOL endorsement.

**EDL 509** Assessment and Evaluation in the ESL/Bilingual Classroom (three credits). This course explores the notion of second language proficiency and helps students develop an understanding of how they can assess or evaluate LEP (limited English proficiency) students' progress in the development of proficiency. Addresses topics of formal and informal methods of assessing language proficiency, test preparation, and interpretation of test results. Students practice creating authentic assessment tasks.

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**EDL 510 Pedagogical Grammar (three credits).** This experiential, discussion-based course provides foundational knowledge of the history and structure of the English language and explores a variety of approaches to teaching grammar in the ESL/EFL classroom. Reviews the historical development of English and explains many of the irregular aspects of the language. Major focus is on the grammatical structures of English and their functions in communication. Required for TESOL endorsement.

**EDL 511 Emergent Literacy (three credits).** Examines theory, research, and practice as it pertains to the processes by which young children learn to read and write in day care, preschool, and primary classrooms. Consideration of language and of literacy and concept development, with emphasis on factors that influence children's growth in these areas. Addresses the relationships

between thought and language, as well as instructional practices that build on these relationships and contribute to the acquisition of literacy during early childhood.

**EDL 512** Literature-based Reading Methods for Children (three credits). Focuses on techniques for using classic, contemporary, and multiethnic children's literature of all genres to support reading acquisition and instruction in preschool and the elementary grades, with particular attention given to linguistic development, phonemic awareness, and comprehension. Other discussion topics include the evaluation and selection of appropriate trade and picture books for classroom use; the application of children's literature to content-area instruction; and the role of children's literature in family literacy and recreational reading programs.

**EDL 513** Literature-based Reading Programs for Adolescents (three credits). Familiarizes language arts teachers and other school personnel with contemporary and multi-ethnic literature and nonfiction appropriate to the needs of middle and secondary school students. Emphasizes the developmental nature of reading preferences and comprehension, the application of reader-response theory to the selection and design of teaching strategies and materials, the potential use of adolescent literature across the curriculum, and criteria for selecting and evaluating trade books for young adults.

**EDL 514** Adult Literacy (three credits). Designed for teachers of adult learners, program providers, and others who have an interest in adult literacy. Participants examine the current research and theory that informs the teaching of adult learners from multiple perspectives (e.g., socio-cultural, historical, and political). Particular emphasis on the roles of teachers and learners in reading and writing instruction. Addresses elements of successful literacy programs, the selection of appropriate materials, effective instructional strategies, and techniques for authentic evaluation. Resources will be shared.

**EDL 580 Reading Recovery Internship (six credits).** Prerequisites: Permission of the department chair and a minimum of three years experience as a kindergarten, first-grade, or remedial reading teacher. Teachers learn to use Reading Recovery diagnostic and intervention procedures to accelerate first graders' learning. Year-long practicum during regular school day and school district support are required.

**EDL 695** Seminar in Literacy Research (three credits). Prerequisite: 18 hours of graduate course work in reading or permission of the instructor. Concluding seminar for the master's degree in literacy education. Provides synthesis of program content and exploration of the implications of current theory and research for practice.

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#### MIDDLE CHILDHOOD EDUCATION

**EDM 513** Teaching and Assessing Language Arts in the Middle School (four credits). Critical exploration and analysis of student-centered methods that encourage integrated study of the language arts. Areas of study include pragmatic and theoretical aspects of reading, writing, listening, and oral language development during early adolescence especially as they apply the selection of objectives, strategies, and materials for instruction and the evaluation of pupil progress.

**EDM 515** Teaching and Assessing Mathematics in the Middle School (four credits). Materials and strategies for teaching mathematics to all pupils; stresses the importance of assessment to provide for individual differences in abilities and needs. Includes activities for developing students' problemsolving, reasoning, and communication skills; fostering mathematical connections; and applying technology.

**EDM 516** Teaching and Assessing Social Studies in the Middle School (four credits). Prerequisites: Minimum of 75% of social studies content courses completed, and completion of all education foundation and curriculum courses. Explores concepts, purposes, and underlying assumptions of teaching the social sciences; develops activities to improve children's understanding of democratic citizenship in a pluralistic society; addresses interdisciplinary curriculum linkages.

**EDM 517** Teaching and Assessing Science in the Middle School (four credits). Introduction to the structure and function of science instruction in upper elementary, middle, and junior high school settings. Provides background and principles of science education, including instructional planning, methods, materials, and a philosophy for teaching science.

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#### SECONDARY EDUCATION

**EDS 513** Secondary Language Arts Instruction and Assessment (four credits). Co-requisite: EST 572. Critical exploration and analysis of current developments in the teaching of secondary English with emphasis on student-centered methods that encourage integrated study of the language arts. Pragmatic and theoretical aspects of language, literature, and composition instruction are considered especially as they apply to the selection of objectives, strategies, and materials for instruction and evaluation. Areas of study include reading and writing development, the writing process, the processes involved in reading literary works, oral language and listening-skill development, as well as formative and summative techniques for assessing pupil progress.

**EDS 515** Mathematics Education in the Secondary School (four credits).

Co-requisite: EST 572. Traces the historical development of various fields of mathematics and provides opportunities for the prospective mathematics teacher to gain experience in preparing and teaching problem-centered lessons. Focuses on materials and strategies for teaching mathematics at the intermediate and secondary level. Also considered are student characteristics, teaching and learning styles, issues of equity and diversity, and constructivist theories of learning. Topics for discussion include issues associated with inquiry learning and changing instructional practices that provide a problem-rich environment for learning and the use of technology.

EDS 516 Social Studies Education in the Secondary School (four credits).

Prerequisites: Minimum of 75% of social studies content courses completed, and completion of all education foundation and curriculum courses. Corequisite EST 572. Explores concepts, purposes, and underlying assumptions of teaching social sciences; develops activities to improve intermediate and secondary students' interest and competence in democratic citizenship in a pluralistic society; addresses interdisciplinary curriculum linkages.

**EDS 517** Science Education in the Secondary School (four credits). Corequisite: EST 572. Introduction to structure and function of science instruction in the secondary schools; provides background and principles of science education, including instructional planning, methods, assessment, materials, and philosophy for teaching science.

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#### SPECIAL EDUCATION

Courses numbered from 500 to 510 are core course offerings within specializations. Whenever possible, they should be completed prior to enrollment in higher-level courses and may actually serve as prerequisites for same.

**ESE 500** Introduction to Special Education (four credits). An introduction to information regarding the characteristics of persons with the various disabilities included in IDEA. Historical and legal issues regarding special education are addressed. Students identify, plan, and implement a variety of instructional strategies. Introduction to the concepts of Praxis II and to the profession.

ESE 501 Nature and Needs of Young Children with Disabilities and Those at Risk (four credits). Prerequisites: EDC 300/500 or equivalent and ESE 500. Exploration of characteristics of young children from birth through age eight who are at risk or disabled, along with their varying needs for early intervention and educational services. Examines historical and current issues and trends in the field of early childhood special education. Required for

licensure as an Early Childhood Intervention Specialist.

**ESE 502** Introduction to Individuals with Mild/Moderate Disabilities (four credits). Prerequisites: EDC 300/500 or equivalent and ESE 500. History, theoretical foundations, and practices related to the social, emotional, and learning characteristics of individuals with mild/moderate disabilities. Includes presentations of diagnostic approaches and educational and social policies relative to these exceptionalities. Required for licensure as an Intervention Specialist for Students with Mild/Moderate Educational Needs.

**ESE 503** Introduction to Individuals with Moderate and Severe **Disabilities** (four credits). Prerequisites: EDC 300/500 or equivalent and ESE 500. Examination of the learning and behavioral characteristics of individuals with moderate and severe disabilities from birth through adulthood; exploration of implications for a comprehensive service-delivery system and trends in the best practices, both current and historical. Required for licensure as an Intervention Specialist for Students with Moderate/Intensive Educational Needs.

**ESE 504** Teaching Students of Varying Abilities (three credits). Survey of educational issues related to serving individuals with disabilities as well as those considered to be gifted and talented. Includes an introduction to the characteristics, etiology, classification, incidence, and learning potential of students with special needs, as well as the legal aspects involved in teaching these students. Addresses methods for accommodating learners of varied ability within the regular classroom through alteration of the environment, curriculum, and instruction.

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ESE 510 Diagnostic Assessment and Multifactored Evaluation for Students with Moderate and Severe Disabilities (two credits). Prerequisite: ESE 503. Students acquire competencies associated with norm and criterion-referenced assessment and understand the conditions under which assessments should be planned and conducted. Students gain competency with the interpretation and analysis of assessment information.

**ESE 511 Classroom Management and Intervention for Severe Behavior Problems (four credits).** Prerequisites: ESE 500, ESE 501, and ESE 502 or ESE 503. Includes approaches to classroom management that foster productive social interactions and are most compatible with instructional goals. Also examines the characteristics and causes of various severe behavior problems and research-based techniques for intervention. Required for licensure as an Intervention Specialist for Students with Mild/Moderate and Moderate/ Intensive Educational Needs.

ESE 512 Collaboration and Partnerships among Parents and Professionals in Special Education (four credits). Prerequisites: ESE 500,

ESE 501, and ESE 502 or ESE 503. Highlights research and productive strategies for establishing successful collaborative relationships with parents of children with disabilities, paraprofessionals, and other professionals. Fosters sensitivity to the needs of culturally and linguistically diverse families. Emphasis on collaboration and partnerships with other professionals, paraprofessionals, and parents as team members designing, implementing, and evaluating appropriate educational experiences for individuals with disabilities. Required for all Intervention Specialist licenses in special education.

**ESE 513** Supporting Medical and Intensive Educational Needs (four credits). Prerequisite: ESE 501 or ESE 503. Overview of medical disabilities and the educational implications for children with medical and/or health-care needs. Analysis of strategies for cross-disciplinary assessment, planning, technology use, and program implementation, including such disciplines as physical, occupational, and speech therapy; psychology; and other health-related fields. Required for licensure as an Early Childhood Intervention Specialist.

**ESE 514** Curriculum and Interventions for Infants and Young Children with Special Needs (four credits). Prerequisite: ESE 501. Examination of developmentally and exceptionality appropriate approaches to early intervention services as well as preschool and primary grade special education. Content includes general and individualized (e.g., IFSPs and IEPs) curricular issues, intervention strategies, and instructional approaches. Required for licensure as an Early Childhood Intervention Specialist.

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ESE 515 Assessing Young Children (four credits). Prerequisite: ECE 503 or ESE 501. Provides a basic understanding of the components of developmental screening, child assessment, child identification, and program evaluation for children at-risk and those with disabilities from birth through age eight. Assessment and evaluation focus on child and family variables. Construction of Individualized Education Programs (IEPs) and Individualized Family Service Plans (IFSPs) are stressed. Required for licensure as an Early Childhood Intervention Specialist.

**ESE 516** Life Skills and Career Planning in Special Education (two credits). Prerequisite: ESE 502. Study of appropriate curriculum, instructional techniques, methods, and materials for the development of vocational, career, and functional living skills in students with mild/moderate disabilities. Addresses planning for the transition from secondary education to work, post-secondary education, and community involvement. Required for licensure as an Intervention Specialist for Students with Mild/Moderate Educational Needs.

**ESE 517** Assessment of Mild/Moderate Disabilities (four credits). Prerequisite: ESE 502. Examination of principles, procedures, and instruments of assessment used in the diagnosis of individuals with mild/moderate

disabilities. Emphasizes the administration and interpretation of formal and informal assessment tools to identify academic and social difficulties. Students work with an individual client in a clinical setting. Required for licensure as an Intervention Specialist for Students with Mild/Moderate Educational Needs for students who possess a certification or license in another teaching area.

ESE 518 Curriculum and Instruction for Students with Mild/Moderate Disabilities (four credits). Prerequisites: ESE 502 and ESE 517. Study of appropriate curriculum, materials, instructional techniques, and use of technology with emphasis on academics, social development, and functional skills in educational planning. Explores instructional accommodations for students with mild/moderate disabilities in the regular education setting. Required for licensure as an Intervention Specialist for Students with Mild/Moderate Educational Needs for students who possess a certification or license in another teaching area.

**ESE 519** Life Skills Assessment, Curriculum, and Instruction (four credits). Prerequisite: ESE 503. Exploration of issues related to assessment, functional curriculum theory, Individualized Education Program (IEP) development, choice of teaching objectives, use of technology, and procedures for implementation of quality educational programs for individuals with severe disabilities. Topics include task analysis, prompting procedures, classroom structure, and monitoring of ongoing progress. Required for licensure as an Intervention Specialist for Students with Moderate/Intensive Educational Needs.

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ESE 520 Assessment, Curriculum, and Instruction to Meet the Academic and Behavioral Needs of Students with Moderate and Intensive Disabilities (four credits). Prerequisite: ESE 503. Exploration of issues related to assessment, curriculum theory, IEP development, use of technology, and educational approaches for individuals with severe disabilities. Emphasis on teaching academic skills, social and emotional behaviors, and career and life skills. Required for licensure as an Intervention Specialist for Students with Moderate/Intensive Educational Needs.

ESE 521 Assessment for Instructional Needs (four credits). Prerequisites: ESE 500 and ESE 502. The focus of this course is the administration and interpretation of formal and informal assessment tools for students with mild/moderate disabilities. Emphasizes the direct link between assessment and the design of appropriate instruction. Assignments require students to make decisions in selecting and administering assessments as well as developing appropriate educational plans for children with disabilities based on assessment outcomes. Clinical or field experience required. Required for first licensure as an Intervention Specialist for Students with Mild/Moderate Educational Needs.

ESE 522 Assessment-Based Curriculum and Instruction for Students

with Mild/Moderate Disabilities (four credits). Prerequisites: ESE 502 and ESE 521. The focus of this course is on the development and utilization of appropriate assessment-based curriculum and instruction for individuals with mild/moderate educational needs. Participants in this course develop an understanding of the relationships among assessment issues, learning environments and instructional practices employed in learning environments for students with disabilities. Clinical or field experience required. Required for first licensure as an Intervention Specialist for Students with Mild/Moderate Educational Needs.

**ESE 695** Seminar in Special Education (one to four credits). Prerequisite: 24 hours of graduate course work in special education or permission of instructor. In-depth exploration of selected topics in special education and application of knowledge to professional settings. May be repeated for a maximum of nine credit hours.

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### SPECIALIZED STUDY AND FIELD EXPERIENCES

Without exception, appropriate authorization for enrollment in any course with an EST prefix must be obtained in advance of registration. Moreover, failure to adhere to the following policies and deadlines may result in the delay of graduation by one or more semesters.

### **Student Teaching and Practicum Requirements:**

At least two full semesters prior to anticipated registration for any field experience, students should consult their faculty advisor or the Office of Field Services, Rhodes Tower 1344, (216) 687-4616 to determine the required due date for submitting a practicum or student teaching placement application. Please note that these deadlines are strictly enforced and that placements are only given to students who have achieved a 2.75 cumulative grade-point average for all courses taken at the graduate level.

## **Exit Requirements:**

In order to be eligible to take the comprehensive examination, the student must apply for graduation by the relevant deadline set by the Graduation Office, Fenn Tower, Room 410, (216) 687-3870, and he or she must register for at least one credit hour of course work during the semester in which the exam is to be taken. EST 691 or any other course may be employed for this purpose. Similarly, completion of a master's degree thesis or project assumes registration for a least one credit hour of EST 698 or EST 699 as appropriate.

## EST 570 Practicum in Early Childhood Education (three

**credits**). Prerequisite: Prior application and approval of the Office of Field Services. Requires four half-days per week for one semester observing and teaching under the direction of a cooperating teacher and a University supervisor. Placement in a preschool setting that provides for the inclusion of children with special needs. Includes a seminar. Required for early childhood teaching license.

## EST 571 Practicum in Middle Childhood Education (three credits).

Prerequisite: Prior application and approval of the Office of Field Services; must be taken concurrently with methods courses as specified by program. Structured field experience designed to accompany specific methods courses and to prepare middle childhood education majors for student teaching; stresses practical application of methods and theory with emphasis on the various roles of a teacher. Students begin formulating a personal philosophy for teaching while working four half-days per week in an upper elementary, middle, or junior high school classroom under the direction of a cooperating teacher and a University supervisor; includes seminar. Required for middle childhood teaching license.

EST 572 Practicum in Secondary Education (three credits). Prerequisite: Prior application and approval of the Office of Field Services; must be taken concurrently with EDS 513, EDS 515, EDS 516, or EDS 517. Structured field experience designed to accompany secondary methods courses in English, science, mathematics, or social studies education. Prepares students for student teaching; stresses the practical application of theory and research to the planning, delivery, and evaluation of instruction. Students explore the various roles of a teacher and begin formulating a personal philosophy for teaching while working in a junior or senior high school classroom under the direction of a cooperating teacher and a University supervisor; includes seminar. Required for secondary teaching license.

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**EST 573** Practicum in Teaching English to Speakers of Other Languages (three credits). Prerequisite: Prior application and approval of the Office of Field Services. University-supervised field experience designed to provide guided practice in the application of current theory and research in ESL/EFL instruction. Students spend four half-days per week under the direction of a cooperating teacher in a classroom that serves ESL students.

EST 575 Practicum in Speech and Hearing Therapy (four credits).

Prerequisite: Prior application and approval of the Office of Field Services. Five days a week for one semester observing and teaching under the direction of a cooperating teacher and college supervisor; weekly seminar required.

**EST 576** Practicum in Early Childhood-Special Education (two credits). Prerequisite: Prior application and approval of the Office of Field Services.

University-supervised practicum experience in one of three settings: early intervention, preschool programs for children with disabilities, or primary grade special education programs; 100 hours over a prescribed number of weeks, observing and teaching or providing early intervention services under the direction of a cooperating teacher. Required for licensure as an Early Childhood Intervention Specialist.

# EST 580 Student Teaching in Early Childhood Education (four credits).

Prerequisite: Prior application and approval of the Office of Field Services. University-supervised student teaching experience in a kindergarten or primary grade classroom that provides for the inclusion of children with special needs. Five full days per week for one semester under the direction of a cooperating teacher. Includes a seminar. Required for early childhood teaching license.

## EST 581 Student Teaching in Middle Childhood Education (10 credits).

Prerequisite: Prior application and approval of the Office of Field Services; must be taken concurrently with EST 595. Five full days a week for one semester in an upper elementary, middle, or junior high school classroom observing and teaching under the direction of a cooperating teacher and a University supervisor. Required for middle childhood teaching license.

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## EST 582 Student Teaching in Secondary Education (10

**credits**). Prerequisite: Prior application and approval of the Office of Field Services; must be taken concurrently with EST 595. Five full days a week for one semester in a secondary school classroom observing and teaching under the direction of a cooperating teacher and a University supervisor. Required for secondary teaching license.

**EST 586** Student Teaching in Early Childhood-Special Education (four credits). Prerequisite: Prior application and approval of the Office of Field Services. University-supervised student teaching experience in one of two settings (different from experience in ESE 576): preschool programs for children with disabilities or primary grade special education programs; 200 hours over a prescribed number of weeks, observing and teaching or providing early intervention services under the direction of a cooperating teacher. Successful completion requires demonstration of competencies necessary for licensure as an Early Childhood Intervention Specialist.

## EST 587 Student Teaching for Mild/Moderate Disabilities (four credits).

Prerequisite: Prior application and approval of the Office of Field Services. University-supervised student teaching experience in a state-approved unit serving students with mild/moderate disabilities; involves 20 hours per week under the guidance of a teacher certified in the area of mild/moderate disabilities. Successful completion requires demonstration of competencies necessary for licensure as a Mild/Moderate Intervention Specialist. Summer placement is limited to students with two or more years of prior teaching

experience.

**EST 588** Student Teaching for Moderate and Intensive Educational Needs (four credits). Prerequisite: Prior application and approval of the Office of Field Services. University-supervised student teaching experience in two separate educational settings: one for students with mental retardation and multiple disabilities, and one for students with serious emotional disturbance; five days a week for one semester observing and teaching under the direction of a cooperating teacher. Successful completion requires demonstration of competencies necessary for licensure as a Moderate/Intensive Intervention Specialist.

**EST 593** Special Topics in Curriculum and Instruction (one to four credits). Prerequisite: May require permission of instructor. Opportunity for in-depth exploration of a topic of a special nature with a group having a similar interest; individual and group work in the classroom, library, or community under the direct supervision of at least one graduate faculty member and other resource professionals as necessary. In many instances, the topic explored may be under consideration as a new course or program to assure student participation in this process and will be included in the seminar title. May be repeated for a maximum of nine credits.

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**EST 595** Seminar on Integrating Theory and Practice (two or three credits). Exit seminar for initial licensure programs in secondary and middle childhood education. Students complete and present a professional teaching portfolio and action research project.

## EST 596 Independent Study in Education (one to four credits).

Prerequisite: Permission of instructor and department chair. Independent project in a selected area of education; approval by and arrangements made with permission of the supervising instructor and the department chair. While no limit is imposed on repetition, only six hours of independent study credit may be applied to the completion of any master's degree program in the College of Education.

**EST 691 Comprehensive Examination (one credit).** Prerequisite: Permission of academic advisor. Designed for M.Ed. candidates taking the comprehensive examination who have completed all course requirements. Students must be registered for one credit to take the examination and to graduate. Non-graded.

**EST 698** Master's Project (one to four credits). Prerequisite: Permission of academic advisor. Culminating project to be undertaken at the completion of master's program under the direction of a faculty committee chaired by the student's academic advisor. May be repeated for a maximum of six credit hours.

EST 699 Thesis (one to four credits). Prerequisite: Permission of academic advisor. Supervised research under the direction of a committee of Graduate Faculty chaired by the student's academic advisor; culminates in submission of an acceptable thesis. May be repeated for a maximum of six credit hours. Return to top [ CATALOG SITE MAP] [ SITE MAP-TEXT ONLY] [ GRADUATE CATALOG HOME]



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education

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natural sciences

social and behavioral

sciences

urban affairs

CERTIFICATE AREAS

ADDENDA

education:

# master of education





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Master of Education

**College of Education** 

Rhodes Tower 1401 (216) 687-4625 www.csuohio.edu/coe

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- Sports Management / Exercise Science
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#### THE FACULTY

**Professors:** 

David W. Adams
Frank D. Aquila
Clifford T. Bennett
Mary A. Boehnlein,
Emerita
Daniel D. Drake
Thomas W. Frew,
Associate Dean
Frank A. Johns, Emeritus
Nancy K. Klein
E. Michael Loovis
Robert H. MacNaughton,
Emeritus
Richard J. McArdle,
Emeritus
James A. McLoughlin,
Dean
Bernadette Marczely
Ralph D. Mawdsley
Vincent J. Melograno
Frank L. O'Dell, <i>Emeritus</i>
Lewis E. Patterson,
Emeritus
Ernest M. Schuttenberg,
Emeritus
Rosemary E. Sutton
Carol A. Takacs, <i>Emerita</i>
Dinah Volk
Elizabeth Reynolds Welfel
Jane A. Zaharias
Susan G. Ziegler

# Ronald J. Abate Judith Ausherman Floyd M. Adams, **Emeritus** Ferris F. Anthony Joshua Bagaka's William A. Beasley Jill M. Black James C. Carl Sanza B. Clark Lynn Deering Cynthia A. Dieterich Frederick Hampton Catherine Hansman Lillian R. Hinds, Emerita Richard F. Hurwitz. Associate Dean R. Elliott Ingersoll Timothy J. Landrum Kathryn MacCluskie Francine Peterman Roland G. Pourdavood Theresa A. Quigney Carl F. Rak David A. Santoro, **Emeritus** Kenneth E. Sparks Judy I. Stahlman

Sarah Toman

**Associate** 

**Professors:** 

# Aida Medina Adams Maria E. Angelova John Babel Ann Bauer Kay Benjamin Marius Boboc Ruth Bombaugh Elizabeth Dutro Jeremy Genovese Joanne E. Goodell Mary Gove Delmi Gunawardena Seung Jin Tak-Ching Eddie Lam Michael C. Lambert Kathleen D. Little Trisha Wies Long Kristien Marquez-Zenkov Mehmet A. Ozturk Thomas V. Palma Rose Quinones-DelValle Anca Codruta Rafiroiu Ernescia Torbert Richardson Elice E. Rogers Barbara Rucker James Salzman Michael Sanders Donna Schultheiss James J. Sheehan Lih-Ching Chen Wang Deborah D. Webster Karl F. Wheatley

Brian Yusko

**Assistant Professors:** 

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#### INTRODUCTION

Programs leading to the Master of Education degree are designed for individuals desiring to work as professional educators of children, youth, and adults. Most graduates seek employment in elementary and secondary schools. Some specializations are oriented toward non-school settings and prepare graduates to work in higher and adult education, social service agencies, corporate training centers, corporate fitness centers, community health centers, wellness/fitness centers, sports clubs, and outdoor/park recreational facilities. All courses in these programs are offered in the late afternoon and evening in order to accommodate students who wish to maintain full-time employment. During the summer term, courses are offered on a full-day schedule to permit full-time study.

Master of Education programs are offered in four departments within the College: Curriculum and Foundations; Counseling, Administration, Supervision, and Adult Learning (CASAL); Teacher Education; and Health, Physical Education, Recreation, and Dance. The Department of Curriculum and Foundations is responsible for courses in the College Core. The Curriculum and Foundations Department also is responsible for courses in the Curriculum and Instruction specializations in the following areas: Educational Technology; Educational Research; and Gifted and Talented Learners. Initial teaching licensure in Secondary Education is also available in this department as a master's degree in Urban Secondary Teaching (the MUST program). The CASAL Department offers degrees in Administration, Counseling, Supervision, and Adult Learning and Development. The Department of Teacher Education is responsible for the Curriculum and Instruction specializations in Early Childhood Education, Elementary Education, Literacy Development and Instruction (Reading, TESOL, Adult Literacy), Secondary Education (all content fields, including modern languages), and Special Education (Early Childhood/Special Education, Mild/Moderate Educational Needs, Moderate/Intensive Educational Needs). The Health, Physical Education, Recreation, and Dance Department offers the Curriculum and Instruction specialization in Health and Physical Education, as well as programs in Sports Management, Exercise Science, and Community Health Education. See the brief descriptions of each program and specialization below.

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## FACULTY RESEARCH AND PUBLICATIONS

College of Education faculty pursue a wide variety of research, which may be classified in six major areas:

- 1. Equity issues, including race and ethnicity, gender, and socio-economic disadvantage.
- 2. Educational/developmental consequences for special needs populations frequently associated with urban environments, including high-risk and premature infants; preschool populations; juvenile delinquents; mentally challenged, learning disabled, and behavior disordered children; and gifted and talented students from low socio-economic, racially, and ethnically diverse backgrounds.
- 3. Urban educational programs, including bilingual education, reading and mathematics competencies, classroom management and discipline, social skills training, management of urban schools, counseling of special urban populations, early childhood interventions (Head Start and day care), Reading Recovery, teacher induction programs, health, wellness, physical education, and whole language.
- 4. Problems of adults in contemporary urban society, including stress, sport law, sports management, exercise science, health, and leisure time uses.
- 5. Foundations of urban education, including life-span development and learning, comparative educational policy, curriculum/methods, teacher education, and guidance and counseling in schools and the community.
- 6. Legal issues in education and major educational policy issues.

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#### ACCREDITATION

In 1998, accreditation of the Master of Education degree program was renewed by the National Council for Accreditation of Teacher Education (NCATE) and the Ohio Department of Education. In 1996, the Community Agency Counseling program was granted accreditation by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

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### FINANCIAL ASSISTANCE

A limited number of graduate assistantships are available in each department, in the Dean's Office, and through funded projects. Graduate assistants have

teaching, research, and/or administrative responsibilities for which they receive financial support. For applications and information, contact the departments directly.

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### **CAREER INFORMATION**

The Master of Education degree qualifies graduates to move from entry-level positions in education to career positions with increased leadership responsibility. The degree enables classroom teachers to advance their careers, and provides initial certification/licensure for those who seek school administration, supervision, and counseling positions. Certain specializations provide initial entry or career mobility for educators in business or community settings. Prospects for career advancement in school settings are favorable at this time because of population shifts and staff retirements. Opportunities in business and community settings have increased as society has become more committed to life-long education for adults.

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### **ADMISSION**

The following requirements must be met by each candidate applying to a program:

- 1. Fulfillment of Graduate College requirements for admission as described in this Catalog.
- 2. Application to the Graduate Admissions Office for admission to the Master of Education program in one of the specializations.
- 3. Request that previously attended colleges send one official transcript to the Office of Graduate Admissions. Transcripts must come directly from the originating colleges.
- 4. Two letters of recommendation (for counseling programs only).
- 5. A score of at least 47 on the Miller Analogies Test, or a score of at least the 50th percentile on the General section of the Graduate Record Examination; however, a student applying for any program except Counseling is exempt from this requirement if:

- a. The baccalaureate degree is less than six years old at the time of application **AND** the undergraduate cumulative grade-point average was at least 2.75; **OR**
- b. The baccalaureate degree is more than six years old at the time of application **AND** the undergraduate cumulative grade-point average was at least 3.00; **OR**
- c. The student has completed the equivalent of 12 semester hours of Cleveland State graduate course work (including EDB 601) **AND** received a grade of B or better in each course.
- 6. Upon formal admission to the College, students must prepare a Program of Study with the assistance of an assigned advisor.

*Note:* Before completing the application, individuals who wish to obtain Ohio Department of Education licensure in order to work in public schools should obtain counseling from the Education Student Services Center, Rhodes Tower, Room 1401, telephone (216) 687-4625.

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#### **GRADUATE STATUS**

Regular Graduate Student status is a category applied to students who have met all admission requirements designated by the Graduate College. Conditional Graduate Student status applies to students who have failed to submit all necessary application materials, but who do meet the University's minimum grade-point and/or admission test score requirements. Conditional admission allows applicants to register for one semester only, during which time all required documents must be received by the Graduate Admissions Office. Upon receipt of outstanding admission credentials, the Education Student Services Center evaluates the student's credentials to determine whether Regular Graduate Student status is warranted.

Non-Degree Graduate Student status is an admission category applied to students who wish to take courses in education, or other subject areas, but who have not been admitted to a degree program. Such students may later be admitted to a degree program upon application if they present required documentation and meet admission requirements. Non-Degree students who originally do not meet admission requirements to a degree program may become eligible for admission by:

- 1. Completing at least 12 semester hours of course work in the College of Education, including EDB 601 Educational Research, and achieving a grade of B or better in each course;
- 2. Achieving a minimum cumulative grade-point average of 3.00 in

courses at the 500 level or above taken as non-degree students; and

3. Notifying the Education Student Services Center, Rhodes Tower, Room 1401, telephone (216) 687-4625.

*Note:* Normally, a maximum of 12 hours of course work earned as a Non-Degree graduate student may transfer to a degree program in education with program approval.

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### **GRADUATE LICENSURE ADMISSION**

An individual with a baccalaureate degree from a college or university with full academic accreditation and who is seeking a State of Ohio teaching license may apply for Graduate Licensure admission status. This status is for individuals who are not seeking a master's degree. Requirements for admission are generally the same as for those applying for Regular graduate degree status. Refer to the section on Admission to the Graduate College: Graduate Certificate and Licensure Admission in this Catalog for complete descriptions of admission procedures and requirements.

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### TRANSFER OF CREDITS

In addition to the regulations of the University (including the six-year limit on course work), credits transferred from another university for application toward the M.Ed. degree are subject to the following conditions:

- 1. Approval of the program and departmental committee.
- 2. No more than nine hours of graduate credit may be transferred, including a maximum of six credits earned for workshops from other universities. The credits must not have been used to fulfill the requirements for the baccalaureate degree.
- 3. Students must have 15 semester hours of graduate (500- to 800-level) course work completed at Cleveland State and a grade-point average of 3.00 or better to have transfer credit recorded on transcripts.
- 4. Not more than one half of a student's total graduate program may be a combination of transfer credit and credit by examination.

5. All credits requested in transfer must carry a letter grade of A, A-, B+, or B in graduate courses. No S/F graded courses may be transferred. Petitions are not considered for this requirement.

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### PROGRAM OF STUDY DOCUMENT

A Program of Study document, showing all course work and other aspects of the master's program, must be filed. The Program of Study should be developed in consultation with an advisor before the mid-point in the student's program. No elective courses should be taken without the advisor's approval. Any subsequent changes in the student's program should be approved, in advance, by the advisor and recorded on the approved Program of Study on file in the Education Student Services Center, Rhodes Tower, Room 1401.

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# **EXIT REQUIREMENTS**

Each participant in the master's program must select one of the following exit requirements when planning the program of study:

- 1. Comprehensive Examination (no credit).
- 2. Project (one to six credits).
- 3. Thesis (one to six credits).

## **Comprehensive Examination Option**

The written comprehensive examination is prepared, administered, and evaluated by the student's department. The examination is usually taken in the final semester of enrollment. Students must be registered during the semester in which they take the examination and must have filed an application for graduation (see the Application for Graduation section in this Catalog). When the student's completed examination has been evaluated, the department chair certifies the results to the Associate Dean. Should the student's comprehensive examination be judged unsatisfactory, the student is permitted to take a second examination. A third examination is not permitted.

## **Thesis/Project Option**

M.Ed. candidates who do not take the comprehensive examination must complete either a project or a thesis as their culminating degree activity. Students must be registered for thesis/project credit each semester (excluding

summer unless they are graduating) until the thesis or project is completed.

## **Thesis/Project Definitions**

- 1. **Thesis:** The thesis must be a written, in-depth, scholarly investigation of a specific area related to the major emphasis of the student's program of study.
- 2. **Project:** The project is usually a manuscript that documents the application of educational theory to practice and demonstrates capacity for evaluation and synthesis. In some instances other media (e.g., film, videotape, computer program) may constitute the major product, but these must be accompanied by written documentation explaining the application, value, and limitations of the product. In all cases a project must include references to related works and must be presented in a form consistent with educational research publications.

Students considering the project or thesis options should contact the Education Student Services Center in the College of Education [Rhodes Tower, Room 1401, telephone (216) 687-4625] to request Thesis or Project Option guidelines. Students also should request a copy of the Thesis and Dissertation Format Guidelines from the College of Graduate Studies [Fenn Tower, Room 1111, telephone (216) 687-9370].

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# **GRADUATION REQUIREMENTS**

Before a Master of Education degree can be conferred, the student must:

- 1. Complete at least 31 to 32 credit hours of course work at the 500 level or above.
- 2. Achieve a grade-point average of 3.00 or higher.
- 3. File the appropriate graduation application.
- 4. Satisfactorily complete all exit requirements.
- 5. Register for at least one graduate credit hour of course work in the semester of graduation, as well as in the semester in which the comprehensive examination is taken. As noted above, students choosing the thesis or project option must be registered for thesis/project credit each semester (excluding summer unless they are graduating) until the thesis or project is completed.

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## LICENSURE REQUIREMENTS

Many of the master's programs offer teaching licensure in their specialty areas. Students apply for licensure through the College of Education Student Services Center, Rhodes Tower, Room 1401, telephone (216) 687-4625. Licensure information, program requirements, and applications are available from this office. Final approval of candidates for recommendation to the Ohio Department of Education for licensure is made by the Dean of the College of Education.

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#### PRAXIS II

To be recommended for licensure, students must pass the required PRAXIS II examination(s). Minimum score requirements are established by the Ohio Department of Education. Endorsement for licensure cannot be given if the student fails to meet the cutoff score in all required PRAXIS II examinations. Each examination may be re-taken until a passing grade is achieved. A list of required PRAXIS II examinations is available in the Education Student Services Center, Rhodes Tower, Room 1401. Brochures containing sample questions and other pertinent information are also available in the Education Student Services Center, or from the Cleveland State University Office of Testing Services, University Center, Room 253B, telephone (216) 687-2272.

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### **BACKGROUND CHECK**

Students in education seeking initial and additional licenses are required to have criminal background checks done by the Ohio Bureau of Criminal Investigation. If an applicant has not been a resident of Ohio for five consecutive years, the background check is also done by the Federal Bureau of Investigation (FBI). Information on the background check process is available in the Education Student Services Center, Rhodes Tower, Room 1401.

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## **DEGREE REQUIREMENTS**

The Master of Education degree program consists of these academic

# components:

- 1. College and/or Curriculum Cores: 10 to 13 credits.
- 2. Area of Concentration/Specialization: 16 to 48 credits.
- 3. Electives: up to 12 credits.

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## **Educational Specialist Degree**

# Department of Counseling, Administration, Supervision, and Adult Learning

Rhodes Tower 1419 (216) 687-4613 www.csuohio.edu/coe

### PROGRAMS OF STUDY

- Counseling and Pupil Personnel Administration
- School Administration

### THE FACULTY

Professors:	Associate Professors:	<b>Assistant Professors:</b>
Frank D. Aquila		John Babel
Daniel D. Drake	Frederick Hampton	Ann Bauer
Bernadette Marczely	R. Elliott Ingersoll	Thomas V. Palma
Ralph D. Mawdsley	Kathryn MacCluskie	Rose Quinones-
Richard J. McArdle,	Carl F. Rak	Delvalle
Emeritus	David A. Santoro	Donna Schultheiss
Frank L. O'Dell, Emeritus	Sarah Toman	
Lewis E. Patterson,		
Emeritus		
Ernest M. Schuttenberg,		

**Emeritus** 

Elizabeth Reynolds Welfel

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#### INTRODUCTION

The Educational Specialist (Ed.S.) degree recognizes a year of planned advanced graduate study beyond the master's degree. The programs build on the foundation of a master's degree or its equivalent in the same area of specialization. The focus of the programs is the enhancement of specialized professional competence for roles in counseling and administration. Created under the conceptual framework of the **Administrator/Supervisor as a Visionary Practitioner**, the educational administration and supervision program enables graduates to achieve outcomes reflecting the five knowledge bases that compose this model: organizational change, relational, developmental, contextual, and ethical. These knowledge bases are applied to the programs within the environments of urban and suburban schools, which are culturally diverse and include students with disabilities.

**Organizational Change** refers to knowledge of the organizational framework and processes necessary to accomplish the work of the organization as a continuous change process.

**Developmental** refers to knowledge that transforms the organization's basic inputs (e.g., materials, personnel) into desired goals, that uses technology to access information and to record organizational progress, and that articulates underlying beliefs that link inputs, activity, and outcome.

**Relational** refers to partnerships, collaborations, and leadership styles that enable stakeholders to have a shared vision.

**Contextual** refers to understanding the present organization in relation to its past in terms of cultural, economic, political, legal, and regulatory influences.

**Ethical** refers to knowledge about justice, righteousness, and meaning that assures that diversity will be respected and that educational resources will be distributed in a manner that offers equal access to all participants.

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#### FACULTY RESEARCH AND PUBLICATIONS

The faculty members of the Educational Specialist programs are experienced scholars/practitioners. Their published works include textbooks, articles, curriculum packages, and technical reports based on their professional experience as well as planned research programs. Administration faculty members have explored legal issues in education, management styles, the supervisory process, personnel management, administrator assessment, career patterns of administrators, and adult learning. Counseling faculty members have studied counseling processes, counseling special audiences, legal and ethical issues in counseling, stress management, human development, and crisis intervention.

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#### FINANCIAL ASSISTANCE

A limited number of full-time graduate assistantships are available in the Department of Counseling, Administration, Supervision, and Adult Learning (CASAL). Graduate assistants help with the teaching program, aid faculty in conducting research, coordinate the services of the counseling lab, and assist in department administration. Graduate assistantships provide tuition support and a stipend to qualified students. Applications for assistantships can be made through the CASAL office, Rhodes Tower, Room 1419.

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#### **CAREER INFORMATION**

Students completing the Ed.S. in Administration qualify for a number of administrative positions including, but not limited to, school principal, supervisor, personnel director, business manager, assistant superintendent, and superintendent. Students completing the Ed.S. in Counseling and Pupil Personnel Administration qualify for positions such as school counselor, director of guidance, or director of pupil personnel services. Due to early retirement programs recently initiated by many school districts, the employment outlook for individuals completing the Ed.S. program is very good. The Ed.S. program also can be used to qualify for administrative positions in non-school settings or to obtain a counseling license for non-school settings.

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#### COUNSELING AND PUPIL PERSONNEL ADMINISTRATION

## **Purpose**

The Educational Specialist in Counseling and Pupil Personnel Administration program is a 32-credit-hour, post-master's, advanced training program in counselor education. Its purpose is to help counselors in school and non-school settings, pupil personnel administrators, and agency directors improve and update their professional expertise, specialize in a chosen counseling area, or develop administrative skills. Requirements of the program can be met by full-time or part-time study or a combination thereof. The requirements for program admission are sufficiently flexible to encompass the needs of each applicant defined above.

## **Admission Requirements**

The following requirements must be met by each candidate applying to the program:

- 1. Hold a master's degree with a concentration in counseling with at least one course in each of the following areas:
  - Counseling
  - Counseling Practicum/Internship
  - Educational Research
  - Group Process
  - Counseling Theory
  - Human Development or Career Development
  - Testing
- 2. Fulfill Graduate College requirements for admission as described in this Catalog.
- 3. Make application to the Office of Graduate Admissions for the Educational Specialist degree in Counseling and Pupil Personnel Administration.

Those candidates needing six semester hours or more to complete their concentration requirements must complete the necessary prerequisites prior to admission. If the deficiency is five semester hours or fewer, the candidate may be admitted to the specialist degree program but will be required to meet the concentration deficiencies during the first eight hours of study. Courses taken to complete concentration deficiencies do not count toward degree requirements.

4. Admission to the program is based on the candidate's graduate grade-point average, score on the Miller Analogies Test (MAT) or the Graduate Record Examination (GRE), and letters of recommendation.

For further information on admission, call the CASAL Department at (216) 687-4613 or visit the web site at www.csuohio.edu/casal.

### **Time Limit**

All requirements for the Educational Specialist degree in Counseling and Pupil Personnel Administration must be completed within six years of starting course work at Cleveland State University or elsewhere. This requirement refers to graduate work taken after receipt of a master's degree.

## **Degree Requirements**

- 1. With the help of the advisor, students establish goals for their personal and professional growth and select a series of courses to meet these goals.
- 2. Students must complete goal-directed courses in either Pupil Personnel Administration or Clinical Counseling to gain licensure.

## **Pupil Personnel Administration Courses**

- ADM 613 School Law (four credits)
- ADM 614 Administration Principles and Practice (four credits)
- ADM 615 Instructional Leadership and Pupil Personnel

Administration (four credits)

- ADM 618 Staff Personnel Administration (two credits)
- <u>ADM 676</u> Clinical Supervision and Professional Development (four credits)
- <u>ADM 680</u> Supervision Practicum (two semesters, two credits per semester)
- ADM 743 School Finance and Economics (four credits)

Electives (six credits)

## **Clinical Counseling Courses**

- EDE 612 Assessment for Counselors (three credits)
- EDE 638/738 Family Counseling (three credits)
- EDE 731 Psychopathology and Diagnosis for Counselors (four credits)
- <u>EDE 771</u> Using the Current Diagnostic and Statistical Manual of Mental Disorders (two credits)
- EDE 773 Theories of Personality and Counseling (four credits)
- EDE 777 Individual Intelligence Testing (three credits)
- EDE 778 Psychopharmacology for Counselors (three credits)
- <u>EDE 779</u> Personality Assessment for Counselors (three credits)
- EDE 781 Internship in Counseling (three credits)
- EDE 782 Internship in Diagnosis and Testing (three credits)

3. Interdisciplinary Electives

With the approval of the advisor, the candidate selects a minimum of four credit hours and a maximum of eight credit hours of course work from any graduate program in the University.

## **Exit Requirements**

The granting of the degree is based on the following criteria:

- 1. Satisfactory completion of course work with a minimum grade-point average of 3.00.
- 2. Satisfactory completion and evaluation of the Internship in Diagnosis and Testing experience as determined by a committee composed of two full-time counselor educators, one full-time faculty member who is not a counselor educator, and, if the student chooses, a practicing counselor or a graduate student.

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#### SCHOOL ADMINISTRATION

## **Purpose**

The Educational Specialist in School Administration program is a 32-semester-hour, post-master's program designed to integrate theory and practice in meeting the goals of individuals currently employed in, as well as those aspiring to, positions in school administration.

## **Admission Requirements**

A participant in the Educational Specialist in School Administration program can meet the degree requirements of the Graduate College and the Department of CASAL through full-time or part-time study. The following requirements must be met by each candidate applying to the program:

- 1. Hold a master's degree.
- 2. Fulfill Graduate College requirements for admission as described in this Catalog.
- 3. Make application to the Office of Admissions for the Educational Specialist program in School Administration.
- 4. Submit to the department a statement of professional goals and related competencies. After admission, this statement is used by the advisor for

program planning.

# **Prerequisites**

A master's degree is required. An individual assessment of graduate transcripts is performed for each student entering the Ed.S. program. Course work to meet prerequisites varies depending on the student's prior graduate credits. Course work in addition to the requirements for the Ed.S. degree may be necessary in order to meet state of Ohio licensure standards.

### **Time Limit**

All Educational Specialist degree requirements must be completed within six years of starting course work at Cleveland State University or elsewhere. This requirement refers to graduate work taken after receipt of a master's degree.

## **Degree Requirements**

Participants plan their program of studies with an advisor. Below is the program of studies for each area of specialization.

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## ED.S. IN SCHOOL ADMINISTRATION - COURSE OF STUDY

(32 credits)

## **Required Courses**

<u>ADM 652/752</u> School Business Management and School Facilities (four credits)

ADM 811 The School Superintendency (four credits)

ADM 880 Internship (four credits)

Electives (20 credits)

### **Exit Requirements**

The granting of the degree is based on the following criteria:

- 1. Satisfactory completion of course work with a minimum grade-point average of 3.00.
- 2. Satisfactory evaluation of the internship experience. If the candidate receives a grade of C for the internship, the student may be required to

repeat all or part of it.

3. Satisfactory evaluation of the candidate's growth, the appraisal of which is based on the student's initial program goals and objectives. This evaluation is normally a written examination. However, an action-research project, an oral examination by selected faculty, a field demonstration, a culminating paper that shows evidence of attainment of program objectives, or a combination of the above may be substituted for the written examination, but only if arrangements are completed when the Program of Studies form is filed.

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#### LICENSES APART FROM DEGREE PROGRAMS

## **Administrative Specialist License**

The Administrative Specialist License may be added to a valid Professional Teacher License or Professional Pupil Services License and may be valid for working in a central office or supervisory capacity under the following conditions:

- 1. Completion of two years of successful teaching experience under a professional teacher license, with the exception of the Pupil Services Administration License, which requires two years of experience under a Professional Pupil Services License.
- 2. Successful completion of an approved program of preparation for the license, which includes a concentration in one of the following areas:

### a. Educational Staff Personnel Administration

- Required Courses

EDB 711 Educational Evaluation and Innovation (four credits)

<u>ALD 645/745</u> Organizational Behavior and Change (four credits)

<u>ADM 615</u> Instructional Leadership and Pupil Personnel Administration (four credits)

<u>ADM 618</u> Staff Personnel Administration (two credits)

ADM 642/742 Collective Bargaining and Contract

Management (two credits)

ADM 643/743 School Finance and Economics (four credits)

<u>ADM 676</u> Clinical Supervision and Professional Development (four credits)

ADM 880 Internship (two semesters, two credits per semester)

# b. Curriculum, Instruction, and Professional Development - Required Courses

EDB 612 Curriculum Theory and Instruction (three credits)

ADM 613 School Law (four credits)

ADM 615 Instructional Leadership and Pupil Personnel

Administration (four credits)

ADM 618 Staff Personnel Administration (two credits)

<u>ADM 676</u> Clinical Supervision and Professional Development (four credits)

<u>ADM 680</u> Supervision Practicum (two semesters, two credits per semester)

# c. Pupil Services Administration

## - Required Courses

ADM 613 School Law (four credits)

ADM 614 Administration Principles and Practice (four credits)

ADM 615 Instructional Leadership and Pupil Personnel

Administration (four credits)

ADM 618 Staff Personnel Administration (two credits)

ADM 643/743 School Finance and Economics (four credits)

<u>ADM 676</u> Clinical Supervision and Professional Development (four credits)

<u>ADM 680</u> Supervision Practicum (two semesters, two credits per semester)

## **Superintendent License**

The Superintendent License may be added to the valid Professional Teacher License for an individual who holds a Principal or Administrative Specialist License and may be valid for teaching in the areas designated in the license for supervising programs for ages three through 21 and pre-kindergarten through grade 12 or for administrative duties in a school system.

The following requirements must be met prior to issuance of the Superintendent License:

- 1. Three years of successful experience in a position requiring a Principal or Administrative Specialist License
- 2. Completion of a program that includes the following course of study:

<u>ADM 652/752</u> School Business Management and School Facilities (four credits)

ADM 677 Legal and Policy Issues in Education (four credits)

ADM 811 The School Superintendency (four credits)
ADM 880 Internship (two semesters, two credits per semester)

# Professional School Business Manager License or

## **Professional School Treasurer License**

These licenses, valid for five years, may be issued to an individual who holds a baccalaureate degree, is deemed to be of good moral character, has completed an approved program or the equivalent as determined by the Ohio Department of Education, and has successfully completed an examination prescribed by the State Board of Education.

## Required Courses

ADM 618 Staff Personnel Administration (two credits)

<u>ADM 642/742</u> Collective Bargaining and Contract Management (two credits)

ADM 643/743 School Finance and Economics (four credits)

<u>ADM 652/752</u> School Business Management and School Facilities (four credits)

ADM 880 Internship (two semesters, two credits per semester)

The requirements for Counseling, Administration, Supervision, and Adult Learning (CASAL) programs may have changed subsequent to submission for publication of the contents of this Catalog. Students interested in any of the CASAL programs are encouraged to contact the CASAL office at (216) 687-4613 regarding current program requirements.

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health professions

natural sciences

social and behavioral

sciences

urban affairs

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education:

# ph.d. in urban education







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Ph.D. in Urban Education

## **College of Education**

Rhodes Tower 1450 (216) 687-4697 www.csuohio.edu/coe

### PROGRAMS OF STUDY

• Urban Education: Administration

• Urban Education: Counseling

• Urban Education: Leadership and Life-Long Learning

• Urban Education: <u>Learning and Development</u>

• Urban Education: Policy Studies

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**FACULTY** 

PROGRAM DIRECTOR

Carl F. Rak, Associate Professor

LEADERSHIP AND LIFE-LONG LEARNING FACULTY

**Professors:** 

POLICY FACULTY

**Professors:** 

David W. Adams Frank D. Aquila Daniel D. Drake Ralph Mawdsley

**CORE FACULTY** 

Professors: Daniel D

David W. Adams Ralph Mawdsley Richard J. McArdle, *Emeritus* Ernest M. Schuttenberg,

Emeritus
Robert J. Sheehan
Rosemary E. Sutton

Dinah Volk

Daniel D. Drake Ralph Mawdsley Richard J. McArdle, *Emeritus* 

**Associate Professor:** 

Catherine Hansman

**Assistant Professor:** 

Elice Rogers

LEARNING AND DEVELOPMENT FACULTY

**Professors:** 

Clifford T. Bennett
Thomas W. Frew,
Associate Dean
Frank A. Johns,
Emeritus
Nancy K. Klein
E. Michael Loovis
James A.
McLoughlin, Dean
Vincent J. Melograno
Rosemary E. Sutton
Carol A. Takacs,
Emerita
Dinah Volk
Jane A. Zaharias

Associate **Professors:** 

Susan Ziegler

**Associate Professors:** 

James Carl Sanza B. Clark Richard F. Hurwitz, Associate Dean

**Assistant Professor:** 

John Babel

RESEARCH METHODOLOGISTS

Qualitative

David W. Adams, historical James Carl, policy Joane Goodell, mathematics education; evaluation of profesional development activities Catherine Hansman, critical theory; feminist perspectives Francine Peterman, *learning* & *development*; teacher education Roland G. Pourdavood. *math methods*: dialogic communities in education Carl F. Rak Michael Sanders,

ethnography; life history;

cultural studies

Donna Schultheiss.

Joshua Bagaka's

**Associate Professors:** 

Sanza B. Clark Cynthia Dieterich Carl F. Rak

Sarah Toman

# ADMINISTRATION FACULTY

**Professors:** 

Frank D. Aquila
Daniel D. Drake
Bernadette Marczely
Ralph Mawdsley
Richard J. McArdle,
Emeritus
Ernest M. Schuttenberg,
Emeritus

**Associate Professors:** 

Frederick Hampton Catherine Hansman **Assistant Professor:**  John Babel

**Counseling Faculty** 

Judith Ausherman Joshua Bagaka's

Ronald J. Abate

William A. Beasley

Jill Black

**Professors:** Cynthia A. Dieterich

Richard F. Hurwitz. Associate Dean

Theresa A. Quigney

Judy I. Stahlman

Kenneth Sparks

Sarah Toman

Frank L. O'Dell, Francine Peterman **Emeritus** 

Lewis E. Patterson, Roland G.

**Emeritus** Pourdavood

Elizabeth Reynolds Welfel

R. Elliott Ingersoll

Kathryn MacCluskie

**Associate Professors:** 

**Assistant Professors:** 

Carl F. Rak David A. Santoro, Ruth Bombaugh Joane Gardell **Emeritus** Sarah Toman Eddie T.C. Lam

Kristien Marquez-

Zenkov

**Assistant Professors:** Ernescia Torbert

Richardson

Michael Sanders Ann Bauer James Sheehan Thomas V. Palma Karl Wheatley Rose Ouinones-Delvalle

Donna Schultheiss

counseling research

## **Quantitative**

Joshua Bagaka's Sanza Clark Cynthia A. Dietrich Eddie T.C. Lam **Rosemary Sutton** Jane A. Zaharias

## Legal

Frank D. Aquila Ralph Mawdsley

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### INTRODUCTION

The Ph.D. degree program in Urban Education develops the leadership skills of advanced graduate students to prepare them to affect change in urban educational settings. It is one of the few education doctoral programs in the nation in which special focus on urban education is infused across different specializations. The conceptual framework and primary focus of this program is preparing The Urban Educational Leader to Affect Change in the **Educational Environment.** 

The five primary knowledge bases of the Ph.D. program are research skills, an urban perspective, the social context of urban education, the urban learner, and organizational change and development. Concepts from education, urban policy planning, law, economics, psychology, public administration, sociology, political science, and organizational development constitute the core content in the urban educational context that underpins study in the specialty areas. Graduates of the program play leadership roles as instructors, counselors, administrators, and policy makers in:

- Schools
- Community colleges
- Colleges and universities
- Business and industry
- Allied health organizations
- Social and community agencies
- Government

Doctoral students acquire academic knowledge and technical skills through their close relationship with the faculty and with their doctoral student support group. Special features of the Urban Education doctoral program include:

- Cohort of candidates
- Urban laboratory
- Research emphasis
- Interdisciplinary core
- Emphasis on organizational change
- Advanced study in an area of specialized educational practice

## The program consists of:

- Core seminars (22 credits)
- Research methodology seminars (10 credits)
- Specialized area of study (minimum of 20 post-master's credits)
- Dissertation in the area of specialization (minimum of 15 credits)

In the core seminars, a group of students remains intact as a continuously enrolled unit for two years of intensive study and discussion. The continuing intellectual association and support of this group meets the residency requirement of the doctoral program. The research methodology seminars provide quantitative and qualitative research skills essential to the creation of new knowledge and the solution of practical education problems. Courses in the specialized areas provide opportunities for advanced study of administration, counseling, teaching, and policy development in the urban context. The dissertation component follows a traditional model, adhering to the scholarship requirements of research in the Doctor of Philosophy degree.

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#### FACULTY RESEARCH AND PUBLICATIONS

The faculty in the College of Education at Cleveland State University have pursued a wide variety of research, which may be classified into six major areas:

- 1. Equity issues, including race and ethnicity, gender, and socioeconomic differences.
- 2. Educational/developmental consequences for special needs/at risk children and youth populations frequently associated with urban environments. The development of educational programs.
- 3. Learning needs and programming for adults in contemporary, post-industrial urban life.
- 4. The management, organizational development, and reform of educational institutions, especially urban public schools.
- 5. Counseling and mental health issues of urban populations in the face of changing health care policy.
- 6. The process of policy development, school reform, and implementation.

The faculty has been recognized for its scholarly publications in more than 80 journals in the core and specialization areas. The College of Education is accredited by the National Council for Accreditation of Teacher Education (NCATE), and its programs meet requirements of the Ohio Department of Education.

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## FINANCIAL ASSISTANCE

A limited number of graduate assistantships is available for students who wish to pursue full-time study. Research and teaching assistantships require 20 hours of service per week (see the section on Graduate Assistantships in this Catalog). All graduate assistants must enroll for at least nine graduate credits per semester. Applications for assistantships must be made directly to the Office of Doctoral Studies, College of Education, Rhodes Tower 1450.

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### **ADMISSION REQUIREMENTS**

The Doctoral Program admits a class of 20 students each year that proceeds as

a cohort.

# Applicants must submit:

- 1. A completed admission application form
- 2. A check for the \$30 application fee
- 3. Official transcripts from all colleges and universities previously attended
- 4. Official GRE test score results
- 5. A current curriculum vita
- 6. A statement of goals and objectives
- 7. Two letters of recommendation, at least one of which should be from a college professor familiar with the applicant's graduate-level academic ability.

Based on completed applications, a pool of qualified candidates is invited to participate in further screening through an interview process with three members of the graduate faculty. To be invited for an interview, the applicant must have a minimum master's grade-point average of 3.25 and meet three of the following five criteria:

- 1. A minimum combined score of 1,000 on the quantitative and verbal sections of the GRE;
- 2. A minimum rating of 4.0 in the analytical writing section of the GRE; or 500 on the former GRE analytic score;
- 3. A demonstrated research experience through a thesis or research project at the master's level or authored publication in a refereed research journal;
- 4. Successful completion of at least two graduate research courses with a grade of B or better, prior to admission to the doctoral program
- 5. Sustained professional experience (a minimum of three years) and success with urban economic, social, political, and/or educational issues as evidenced by the candidate's portfolio and/or references. This can include extensive and successful evidence of leadership, policy or pedagogy innovations, teaching, or therapeutic performance.

  (Applicants may submit additional supporting evidence to document urban experience.)

If a candidate who meets three of the above five criteria has a combined GRE score below 950, the committee may recommend, upon acceptance, additional course work prior to beginning the doctoral program.

The application deadline is March 15. Students are admitted fall semester only. Submit application materials to the Graduate Admissions Office, Rhodes Tower West, Room 204, telephone (216) 687-5599. The Graduate Admissions Office processes materials and forwards them to the Education Doctoral Studies Program Director.

The Doctoral Studies Committee makes the final admission recommendation to the Graduate Admissions Director based on the applicant's ability to meet the screening criteria stated above and the results of an interview. The Graduate Admissions Director transmits the admission action and supporting materials to the applicant.

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## **DEGREE REQUIREMENTS**

Each student plans a program of study with a faculty advisor. Components are as follows:

## **Core Seminars / Courses**

Required (22 credits)

EDU 803	The Life Cycle: Development and Learning (four credits)
EDU 805	Cultural Foundations of Education I: Social Perspectives (four
credits)	
EDU 806	Cultural Foundations of Education II: Race and Ethnicity (two
credits)	
EDU 809	Urban Education: Organizational Change and Development (four
credits)	
<u>UST 716</u>	Systems and Processes of Policy Development (four credits)
UST 800	Urban Theory (four credits)

### **Research Core**

**Required** (10 credits)

<u>EDU 800</u>	Advanced Research Design and Measurement (three credits)
<u>EDU 801</u>	Inferential Statistics and Hypothesis Testing (three credits)
EDU 807	Introduction to Qualitative Research in Education (four credits)

### **SPECIALIZATIONS**

(20 credits minimum)

**SCHOOL ADMINISTRATION** requires as a prerequisite a master's degree in administration and leads to a state license for various administrative positions.

Required (16 credits)

ADM 830 Evaluating Educational Policymaking at the Federal and State Levels (four credits)

ADM 831 Implementing Public Policy in Schools and Universities (four

credits)

ADM 833 Seminar in Urban Education (four credits)

ADM 889 Advanced Seminar in Administration (four credits)

At least four additional credit hours selected from courses such as:

ALD 606 Modern Higher Education in a Changing Society (four credits)

ALD 745 Organizational Behavior and Change (four credits)

ADM 618 Staff Personnel Administration (two credits)

ADM 674 Special Education Law (four credits)

<u>ADM 676</u> Clinical Supervision and Professional Development (four credits)

<u>ADM 677</u> Legal and Policy Issues in Education (four credits)

ADM 742 Collective Bargaining and Contract Management (two credits)

ADM 743 School Finance and Economics (four credits)

ADM 752 School Business Management and School Facilities (four credits)

ADM 811 The School Superintendency (four credits)

**COUNSELING** requires as a prerequisite a master's degree in counseling or a closely related field. Prepares individuals for leadership positions in community agencies, school or college counseling, and student personnel settings and provides the course work for Clinical Counselor licensure if the student is a Licensed Professional Counselor.

Required (11 credits)

EDE 773 Theories of Personality and Counseling (four credits)

EDE 781 Internship in Counseling (three credits)

EDE 788/888 Research and Evaluation in Counseling (four credits)

Complete nine additional credit hours from the following:

# **Clinical Counseling Track**

EDE 633 Women and Mental Health (three credits)

<u>EDE 731</u> Psychopathology and Diagnosis for Counselors\* (four credits)

EDE 738 Family Counseling\* (three credits)

EDE 770 Counseling Children and Adolescents (three credits)

EDE 771 Using the Current Diagnostic and Statistical Manual of

Mental Disorders (two credits)

EDE 777 Individual Intelligence Testing\* (three credits)

EDE 778 Psychopharmacology for Counselors\* (three credits)

<u>EDE 779</u> Personality Assessment for Counselors\* (three credits)

EDE 782 Internship in Diagnosis and Testing\* (three credits)

or

## **Pupil Personnel Administration Track**

ADM 613 School Law (four credits)

ADM 614 Administration Principles and Practice (four credits)

ADM 615 Instructional Leadership and Pupil Personnel

Administration (four credits)

ADM 618 Staff Personnel Administration (two credits)

ADM 643/743 School Finance and Economics (four credits)

<u>ADM 676</u> Clinical Supervision and Professional Development (four credits)

\*These or equivalent courses may be required for the Professional Clinical Counselor License.

*Prerequisites:* The counseling specialty is built on a master's degree in counseling. Students entering the program with degrees completed some time ago may need additional prerequisites if they plan to seek the PCC license upon degree completion. (Students with master's degrees not in counseling also must meet master's-level course work requirements for the PCC as a part of their Ph.D. program.)

## **Special Note:**

Since the passage of the new State Licensure Law in Ohio, the Cleveland State Counseling Programs are under review, so some course requirements in Counseling may change.

Please contact the Office of Doctoral Studies at (216) 687-4697 for an update of the current requirements.

Students seeking Pupil Personnel Administration certification/licensure should see an advisor for requirements.

**LEADERSHIP AND LIFE-LONG LEARNING** accepts applicants from a broader range of master's study and prepares them for administrative roles in higher education and adult education, including human resource development and community agencies.

Required (12 credits)

ADM 889 Advanced Seminar in Administration (four credits)

ALD 800 Leading Continuing Education for Professionals (four crerdits)

ALD 801 Adult Learning Theory and Research (four credits)

At least eight additional credit hours distributed over the areas of administrative theory, administrative decision making, planning/budgeting, leadership, and professional ethics.

**LEARNING AND DEVELOPMENT** accepts applicants interested in the improvement of instruction through understanding individual differences in learners and learning environments with an emerging emphasis on technology. Graduates pursue teaching and instructional leadership roles in K-12, teacher, higher, and adult education settings.

Required (12 credits)

<u>EDU 811</u> Intellectual Variability: Seminar in Learning and Development (three credits)

<u>EDU 812</u> Personal and Social Factors: Seminar in Learning and Development (three credits)

<u>EDU 813</u> Differentiating Intervention: Learning and Development Settings (two credits)

EDB 711 Educational Evaluation and Innovation (four credits) At least eight additional credit hours approved by the advisor.

Students in the Learning and Development track may also specialize in a specific curricular area.

**POLICY STUDIES** accepts applicants with a broader range of master's-level study and prepares them for policy-leadership and school-reform roles in a variety of educational settings.

Required (at least 10 credits as follows)

EDU 814 Urban Educational Policy (four credits)

And two of the following courses:

EDB 604	Social Issues	and Education	(three credits)
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EDB 606 Philosophy of Education (three credits)

EDB 608 School and Society in the American Past (three credits)

EDB 609 Comparative and International Education (three credits)

EDB 612 Curriculum Theory and Instruction (three credits)

EDB 671 History of Minority Education (three credits)

EDB 693 Special Topics in Curriculum and Foundations (one to four credits)

EDB 711 \* Educational Evaluation and Innovation (four credits)

ADM 677 Legal and Policy Issues in Education (four credits)

ADM 743 School Finance and Economics (four credits)

<sup>\*</sup>recommended for all who plan to lead or evaluate programs

At least 10 additional hours selected from policy foundations, urban affairs, history, economics, and/or law.

## **Exit Requirements**

(15 credits minimum)

EDU 895 Dissertation Research (before approved prospectus)

EDU 899 Ph.D. Dissertation (after approved prospectus)

## Dissertation in the area of specialization

(15 credits minimum)

#### **Total Credit Hours**

(67 credits minimum)

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## FOREIGN LANGUAGE/COMPUTER USE REQUIREMENT

Each student is required to demonstrate proficiency in a foreign language or a computer language. Information regarding procedures for demonstrating proficiency may be obtained from the Office of Doctoral Studies. Procedures are detailed in the *Urban Education Ph.D. Student Handbook*.

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#### ADVANCEMENT TO CANDIDACY

Eligibility for candidacy is determined on the basis of successful performance on written comprehensive examinations. The examinations are to be taken following the completion of the core and research seminars/courses, and after the completion of no fewer than 12 hours of credit within the area of specialization.

Students who fail to attain the required level of competence on the comprehensive examinations may retake them, but only after completing additional preparatory course work and/or study. Examinations are administered on an annual cycle.

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### **EXIT REQUIREMENTS**

All candidates must complete a dissertation (15 credits minimum) that adds to the research knowledge about urban education. The student begins prospectus development in the second year of the program in concert with the Dissertation Advisor. A committee comprised of the advisor and four additional faculty members is named when the student is advanced to candidacy. The process includes the following steps:

- 1. Prospectus/Specialization Hearing. When the candidate completes a dissertation prospectus to the advisor's satisfaction, an oral examination on the prospectus and the area of specialization is conducted by the Dissertation Committee.
- 2. When the candidate has completed the dissertation, a final oral examination is held before the Dissertation Committee. Acceptance of the dissertation and recommendation for conferring the Ph.D. degree is contingent upon majority Committee approval. If the candidate is not initially successful, the oral examination may be repeated once after appropriate revision of the dissertation.

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natural sciences

social and behavioral

sciences

urban affairs

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# mechanical engineering





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## Master of Science in Mechanical Engineering

# **Department of Mechanical Engineering**

Stilwell Hall 232 (216) 687-2567 www.csuohio.edu/mce/

### THE FACULTY

#### **Professors:** Associate Professors:

Kalil A. Alkasab William J. Atherton John L. Frater Asuquo Ebiana Rama S. R. Gorla Earnest N. Poulos Mounir B. Ibrahim, *Chair* Majid Rashidi Edward G. Keshock

Edward G. Resile

Paul P. Lin

Jerzy T. Sawicki

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## **INTRODUCTION**

The Mechanical Engineering Department offers a program leading to the Master of Science in Mechanical Engineering. Major areas of specialization within the department are:

- Thermal-Fluid Mechanics and Energy Systems
- Mechanical Systems and Design
- Dynamics and Control

The program structure is flexible and may be tailored to individual career goals in order to meet the needs of the broad spectrum of engineers in general, and particularly those in the highly industrialized Greater Cleveland area. Numerous and continuous opportunities exist for exposure to the engineering problems and developments within the industrial/research complex of Northeastern Ohio. In addition to substantial interdisciplinary research activities occurring across the College of Engineering, faculty and students participate in research programs of the highly active and successful Advanced Manufacturing Center (part of the CAMP Edison Technology Center supported by the state of Ohio), the NASA Glenn Research Center, and the Ohio Aerospace Institute. The educational programs of the department are designed to stimulate creativity, to provide a deep understanding of the basic physical phenomena involved in mechanical systems, and to provide an ability to use modern techniques in the analysis, control, and design of mechanisms, machines, and fluid/thermal systems.

Students may enter the program immediately after receiving a bachelor's degree or after a period of employment in industry. In either case students may pursue their studies on a full-time or part-time basis. Classes are scheduled in late-afternoon and evening hours to accommodate both part-time students employed in the Cleveland area and students pursuing the master's degree on a full-time basis. Classes also are available through distance-learning technology, including interactive, live video, and asynchronous Internet systems.

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#### **FACULTY RESEARCH ACTIVITIES**

The Mechanical Engineering Department has excellent research facilities, including a fully anechoic chamber, wind tunnel, combustion, dynamics, machine vision, and motion and control laboratories. The Fenn College of Engineering's computer network, workstations, and PC laboratory run current analysis software and are available for the broad range of computing requirements of graduate students. Current research projects include:

- Advanced power cycle systems
- Unsteady fluid flow/heat transfer
- Computational fluid dynamics/heat transfer
- Computer modeling of manufacturing processes
- Analysis/modeling of gear trains
- Analysis/design of high speed hydraulic actuators
- urbomachinery analysis/design optimization

- Self-diagnostic sensors
- Gravity effects on two-phase flow
- Enhanced film boiling heat transfer
- Non-Newtonian fluid mechanics/heat transfer
- Machine vision and applications
- Multidisciplinary system design optimization
- Dynamics and tribology of rotor-bearing systems
- Combustion
- Dynamics and control

#### FINANCIAL ASSISTANCE

The department offers a limited number of graduate assistantships and research assistantships. Additional opportunities for research assistantships exist through the Ohio Aerospace Institute. Information about these assistantships may be obtained by contacting the Department of Mechanical Engineering at (216) 687-2576.

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#### **CAREER INFORMATION**

Upon successful completion of program requirements, students will have a solid education based on the fundamentals of engineering science, and will be prepared for practical applications of engineering design, analysis, and research. Graduates are, therefore, well prepared for employment in industry or research laboratories.

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#### ADMISSION INFORMATION

Admission to the graduate program in mechanical engineering is open to qualified students with a baccalaureate degree in mechanical engineering or other fields of engineering. A minimum baccalaureate grade-point average of 2.75 is normally required. Students without a degree in mechanical engineering are required to take prescribed undergraduate courses in mechanical engineering to ensure adequate preparation for the required graduate-level courses. These courses are available both day and evening from the Mechanical

Engineering Department and other departments in the University. Undergraduate courses taken to remediate deficiencies do not count toward graduate degree requirements. The GRE General section is required if one or more of the following conditions is true:

- The undergraduate degree was awarded by a college or university outside of the United States, or by a Canadian institution not accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.
- An unaccredited college or university awarded the undergraduate degree.
- The student's undergraduate cumulative grade-point average is below 2.75.
- The year of the baccalaureate degree precedes the date of application to the Graduate College by more than six years; however, in this case, the examination requirement may be waived, with program approval, if the applicant's undergraduate grade-point average is 3.00 or above.

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## **DEGREE REQUIREMENTS**

Within the framework of the College of Engineering requirements for the M.S. degree, the Department of Mechanical Engineering offers two program options. The thesis option requires a minimum 30 credit hours of course work and master's thesis research. The non-thesis option requires a minimum 33 credit hours of course work and master's project research. The Department of Mechanical Engineering further restricts the content of each student's master's program to contain:

- 1. A minimum of 20 credit hours of course work in the department's 500-or 600-level courses, which includes a minimum of eight credit hours of advanced engineering analysis or applied mathematics. (Completion of two courses from among MCE 501, MCE 504, MCE 509, or approved substitutes will meet this requirement.)
- 2. A maximum of nine credit hours of graduate course work transferred from other universities. The graduate program must include thesis or project work on a topic approved by the student's graduate advisor and thesis committee. The project or thesis work typically should start only after the student completes 16 credit hours or more of approved course work at the master's level.

A student must be admitted to candidacy before receiving the master's degree in mechanical engineering. Admission to candidacy must be obtained at least one semester prior to graduation. A student is considered a candidate for the Master of Science in Mechanical Engineering degree upon meeting the following criteria:

- 1. Formal application to the department.
- 2. Departmental approval of a program of study.
- 3. Completion of eight graduate credit hours with a grade-point average of 3.00 or better, following the fulfillment of the preceding two criteria.

# **Thesis Option**

With the thesis option, a student plans and carries out a research project that is expected to be published in a refereed journal. The requirements are:

- 1. A minimum of 30 credit hours with a grade-point average of 3.00 or better. This includes a minimum of 24 credit hours of course work and at least six credit hours toward the master's thesis.
- 2. Selection of a major advisor and an advisory committee and approval of a program of study and the research project by the major advisor and advisory committee.
- 3. Completion of all requirements under Degree Requirements above.
- 4. Continuous enrollment from the time the research plan is approved until the thesis is defended.
- 5. Defense of the thesis before the advisory committee.

## **Non-Thesis Option**

The non-thesis option is intended only for those students who have already had the equivalent of a thesis experience. The evaluation of the equivalence of such an experience must be approved by both the student's advisor and the department chair. Students in this option earn the M.S. degree in Mechanical Engineering by completing the following requirements:

- 1. A minimum of 33 credit hours with a grade-point average of 3.00 or better. This includes a minimum of 28 credit hours of course work and at least five credit hours toward the master's project.
- 2. Selection of a major advisor to supervise and approve a program of study.

- 3. Fulfillment of all requirements under Degree Requirements above.
- 4. Completion of the master's project report for review by the major advisor and two additional faculty members of the department.

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REQUIRED CORE COURSES

# Master of Science in Industrial Engineering

# **Department of Industrial and Manufacturing Engineering**

Stilwell Hall 212 (216) 687-2044 ime.egr.csuohio.edu

#### THE FACULTY

**Professors:** Associate Professors:

Chittaranjan Jain Ying-Hsin Andrew Liou L. Kenneth Keys Taysir H. Nayteh Theodore J. Sheskin Paul F. Petersen

Joseph A. Svestka, Chair

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#### INTRODUCTION

The objectives of the Master of Science degree program in Industrial Engineering are to enable the student to continue professional development beyond the baccalaureate degree and to prepare the student for higher-level management responsibilities in a changing technological environment. The program also provides a foundation for doctoral studies. Programs are

structured to accommodate students holding undergraduate degrees in industrial engineering, engineering degrees in other fields, or science degrees with appropriate engineering experience. Students holding undergraduate degrees in disciplines other than industrial engineering may be required to take prerequisite undergraduate engineering courses, depending on their professional experience.

Courses are scheduled in the late afternoon and evening to permit students to follow a full-time or part-time program of study.

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#### FACULTY RESEARCH AND LABORATORIES

Students have ample opportunities to pursue research in the areas of facility planning, quality systems, industrial automation, in-process sensing and adaptive control, machining, process simulation and control, engineering design/production interaction, engineering and technology management, work measurement, and human performance with interdepartmental cooperation, as well as materials and manufacturing processes and systems.

The Industrial and Manufacturing Engineering (IME) Department has several state-of-the-art laboratories in the fields of human factors, quality control, quantitative analysis, facility planning, industrial automation, manufacturing processes, and metrology. The Rockwell Industrial Automation Laboratory contains state-of-the-art programmable logic controllers (PLCs), machine vision, robotics, and precision material handling systems. The Nondestructive Evaluation and Process Control Laboratory contains an ultrasonic CAT-scan system along with optical florescence, eddy current, and several other types of sensors and controllers. The Manufacturing Processing Laboratory contains several lathes, computer numerical controlled (CNC) milling machines, grinders, and force dynamometers, and a PC-based data acquisition (DAQ) system. The Manufacturing Research and Process Simulation Laboratory focuses on the development of process simulation models and continuous process improvement by applying deterministic, condition monitoring, artificial intelligence techniques. Current research activities include predictive machining simulation and monitoring, high-speed dry milling technology, and micro-mechanical machining of ceramics.

The IME department works closely with the Advanced Manufacturing Center (AMC). The AMC focuses on applied research and development in the areas of machine performance, manufacturing operations, quality engineering, and the transfer of technology to industry. Another major resource is the close collaborative relationship the department has with a large number of local industries.

#### FINANCIAL ASSISTANCE

A limited number of graduate assistantships are available to highly qualified students. Some assistantships are funded through sponsored research projects that require the student to complete a thesis.

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#### **CAREER INFORMATION**

Industrial engineering graduates typically are employed in manufacturing, service, government, and health care industries and agencies. The demand for industrial engineers continues to increase. Some recent graduates have obtained senior-level management positions with a variety of local organizations. Employment prospects for students trained in industrial engineering generally are good. Several national surveys have predicted that industrial engineering will be one of the highest career growth and opportunity areas for the next decade.

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#### **ADMISSION INFORMATION**

Admission to the graduate program in industrial engineering is open to qualified students with a baccalaureate degree in engineering or science. A minimum baccalaureate grade-point average of 2.75 is normally required. Students lacking prerequisite courses should complete their preparatory work by taking undergraduate day or evening classes. A list of preparatory courses required for students without an engineering degree is available from the department. The department's graduate program committee evaluates all applications.

The GRE General section is required if one or more of the following conditions is true:

1. The undergraduate degree was awarded by a college or university outside of the United States, or by a Canadian institution not accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.

- 2. An unaccredited college or university awarded the undergraduate degree.
- 3. The student's undergraduate cumulative grade-point average is below 2.75.
- 4. The year of the baccalaureate degree precedes the date of application to the Graduate College by more than six years; however, in this case, the examination requirement may be waived, with program approval, if the applicant's undergraduate grade-point average is 3.00 or above.

If the GRE is required, minimum scores at the 50th percentile on the Analytical and 80th percentile on the Quantitative sections are normally required.

International students should refer to the section earlier in this Catalog for information on testing requirements to demonstrate English language proficiency

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# **DEGREE REQUIREMENTS**

The requirements for the M.S. degree in Industrial Engineering are as follows:

- 1. A program of study must be completed in conference with the student's faculty advisor within the first semester of enrollment. Students are expected to follow the plan of study requirements. The student's program of study must have the approval of the Graduate Committee of the department.
- 2. Two options are available thesis or project. The thesis option requires a minimum of 27 hours of course work and a minimum of six hours of IME 698 Master's Thesis. The project option requires a minimum of 30 hours of course work and a minimum of six hours of IME 697 Master's Project. Students may be required to take certain undergraduate courses to be prepared to take 500- and 600-level courses.
- 3. A minimum of 21 credits for the thesis option and 24 credits for the project option must be taken at the 500 or 600 level in the Industrial and Manufacturing Engineering Department. A maximum of two technical electives (six hours) may be taken outside of the department with departmental approval.
- 4. A thesis is optional. Thesis registration may begin after completion of

nine credit hours of work in residence. The thesis topic must be approved by the Graduate Committee of the Department of Industrial and Manufacturing Engineering. The thesis student is required to enroll in IME 698. The student must satisfactorily defend the thesis in a final oral examination. The student must be enrolled in IME 698 or IME 699 to defend the thesis.

5. In lieu of a thesis, the student may opt to complete a project. The project may be scheduled after completing nine credit hours of work in residence. The project must be approved by the Graduate Committee of the Department of Industrial and Manufacturing Engineering. Project students must take one additional 500- or 600-level course and enroll in IME 697. Project students must satisfactorily defend the project in a final oral examination. The project must be supervised by a faculty member of the Department of Industrial and Manufacturing Engineering. The student must be enrolled in IME 697 or IME 699 to defend the project.

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## **EXIT REQUIREMENTS**

Students pursuing either degree option must successfully defend their work in an oral examination upon completion of the thesis or project.

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## AREAS OF CONCENTRATION

- Advanced Industrial Engineering
- Engineering Management
- Manufacturing Engineering
- Quality Engineering

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## **REQUIRED CORE COURSES**

(To be taken by all industrial engineering students)

**IME 520** Applied Engineering Design

**IME 530** Operations Research I

IME 560 Manufacturing Systems Engineering
IME 562 Production and Inventory Control

Course requirements for the four areas of concentration are determined in conference with the student's advisor.

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# environmental engineering

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Master of Science in Environmental Engineering

## **Department of Civil and Environmental Engineering**

Stilwell Hall 107 (216) 687-2400

www.csuohio.edu/civileng/ms\_environmental\_engr\_.htm

#### THE FACULTY

**Professors:** Associate Professors:

Yung-Tse Hung
Mounir B. Ibrahim
Dhananjai B. Shah
Mark A. Tumeo
Nilufer Dural
Lutful I. Khan
Walter M. Kocher
Earnest N. Poulos

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#### INTRODUCTION

The Master of Science degree in Environmental Engineering is offered through the Department of Civil and Environmental Engineering in the Fenn College of Engineering. This program represents the engineering component of the crossdisciplinary environmental academic studies program at Cleveland State University.

Although this program is designed for individuals with a bachelor's degree in engineering, non-engineering graduates also can take advantage of this program.

#### FACULTY RESEARCH AND PUBLICATIONS

Faculty research and publications reflect areas in which students may conduct their theses or project investigations. Faculty research areas include adsorption; waste site remediation; pollution prevention; green manufacturing; industrial waste treatment; brownfields; air pollutant control; biological treatment processes; waste recycle and reuse; solid waste engineering; physiochemical treatment processes; soil decontamination; combustion process emissions; energy conversions; risk assessment; environmental policy; and real-time environmental monitoring.

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#### FINANCIAL ASSISTANCE

University-supported assistantships and tuition grants are available to qualified graduate students on a competitive basis. Additional assistantships and support are available through the Department of Civil and Environmental Engineering, the Center for Environmental Science, Policy, and Technology, and external federal, state, and industrial grants of program faculty. Graduate applicants should indicate their interest in assistantships on the Application for Graduate Admission.

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#### **ADMISSION INFORMATION**

Admission to the graduate program in environmental engineering is open to qualified students with a baccalaureate degree in engineering or science. A minimum baccalaureate grade-point average of 3.00 is normally required. Applicants from undergraduate programs other than environmental engineering may be required to take additional courses. The GRE General section is required of all applicants.

Minimum scores 50th percentile on the Analytical and 80th percentile on the Quantitative sections are normally required. International students should refer to the section earlier in this Catalog for information on testing requirements to demonstrate English language proficiency.

Each application for the M.S. program is forwarded to the College of Engineering and to the Environmental Academic Studies Program Coordinating Committee (EASPCC). The application is reviewed, and the recommendation for acceptance or denial is sent to the Graduate Admissions Office, which informs the applicant of the decision.

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#### TRANSITION COURSES

The purpose of the transition courses is to prepare incoming students who do not have a background in engineering for the graduate program. These requirements are summarized below. Courses previously completed, and to some extent the applicant's professional experience, are compared to the content of the transition courses. Based on an evaluation of the applicant's academic and professional background, the specific courses required to satisfy the Transition Curriculum are determined.

A non-degree graduate student may take up to three courses in the M.S. program, provided that all prerequisites are satisfied, while taking the Transition Courses.

## **Transition Curriculum**

# • Science Requirements

One year of chemistry (CHM 261/266 and CHM 262/267\*) One year of physics (PHY 241/242\*)

## • Mathematics Requirements

One year of calculus (MTH 181 and MTH 182\*) Statistics (ESC 310\*) Differential equations (ESC 250\*) Linear algebra (ESC 350\*)

## • Engineering Requirements

Statics (ESC 201\*) Fluid mechanics (ESC 301\*) Thermodynamics (ESC 321\*) Hydraulics (CVE 361\*)

\*CSU equivalent

## **DEGREE REQUIREMENTS**

The M.S. in Environmental Engineering program includes core competency requirements, the engineering core curriculum, elective course requirements in specialty areas, and a research/project component. A minimum of 30 credit hours must be satisfied, and all of the above requirements can be met within 33 credit hours. If some of the competency requirements are satisfied prior to entering the program, then the degree can be completed within 30 credit hours.

## **Core Competency Requirements**

(eight or nine credits)

Competency requirements are designed to introduce students to areas outside of their major area of study and to promote an interdisciplinary approach to solving environmental problems. All students enrolled in environmental graduate degree programs are required to complete these courses, which are summarized below. The environmental engineering faculty determines whether completion of a similar course(s) satisfies a specific competency requirement.

Core competencies for the M.S. in Environmental Engineering program are fulfilled through courses in science, law/policy, and technical writing.

#### 1. Science

EVS 506 Ecosystem Science (three credits) *or* PHY 570 Environmental Physics (four credits)

## 2. Law/Policy

LAW 671 Environmental Law (three credits) *or*<u>UST 652</u> Environmental Policy and Administration (four credits)

## 3. Technical Writing

ENG 509 Technical Writing (two credits)

These competency courses are not prerequisites for entering the program. Any of the required competency courses might apply to the M. S. degree as an elective course.

#### **Core Curriculum**

(13 credits)

Required core courses in the M.S. in Environmental Engineering program provide a sound foundation for environmental work, regardless of an individual's prior engineering discipline background. Since some of these core

courses are prerequisites for elective courses, it is generally helpful to complete core courses early in the program.

## The core courses are:

CVE 595 Environmental Seminar (one credit)

<u>CVE 534</u> Contaminant Transport Phenomena (three credits)

CVE 570 Environmental Chemistry (three credits)

<u>CVE 572</u> Biological Principles of Environmental Engineering (three credits)

<u>CVE 671</u> Physical and Chemical Principles of Environmental Engineering (three credits)

If a student has already completed a course with content very similar to a core course, he or she may be able to substitute an elective course for the specific core course.

See the Master of Science in Civil Engineering section of this Catalog for CVE course descriptions.

## **Elective Course Requirements**

An area of concentration must be chosen from one of the four categories of electives, and at least two elective courses must be chosen from that category. This requirement is intended to provide depth within the selected focus area, and typically relates to the student's professional activities, future career path, and thesis/project research. In addition to the courses listed, Special Topics Courses often are available, and also may be applied toward requirements. Students must obtain approval from their advisors prior to registration for Special Topics. A maximum of four credits of Special Topics may be applied toward the master's degree.

## 1. Solid and Hazardous Waste Courses

<u>CVE 533</u> Pollution Prevention and Benign Processes (three credits)

CVE 540 Soil Stabilization and Decontamination (four credits)

CVE 575 Solid Waste Engineering Management (three credits)

CVE 585 Hazardous Waste Site Remediation I (three credits)

CVE 686 Hazardous Waste Site Remediation II (three credits)

## 2. Industrial Environmental Engineering Courses

CVE 533 Pollution Prevention and Benign Processes (three credits)

CVE 574 Industrial Waste Treatment (three credits)

CVE 576 Environmental Health Engineering (three credits)

CVE 683 Occupational Health Engineering (three credits)

MCE 655 Acoustics (four credits)

#### 3. Water and Wastewater Treatment Courses

CVE 564 Groundwater Hydrology (three credits)

CVE 566 Groundwater Modeling (three credits)

CVE 574 Industrial Waste Treatment (three credits)

CVE 578 Water Treatment Plant Design (three credits)

CVE 579 Wastewater Treatment Plant Design (three credits)

CVE 680 Biological Waste Treatment (three credits)

## 4. Energy and Air Pollution Courses

CVE 581 Air Pollution (three credits)

CVE 682 Air Pollution Control Engineering Design (three credits)

MCE 544 Applied Combustion Processes (four credits)

MCE 622 Energy Conversion (four credits)

MCE 655 Acoustics (four credits)

See the Master of Science in Civil Engineering section of this Catalog for CVE course descriptions; see the M.S. in Mechanical Engineering section for MCE course descriptions.

## **Thesis/Project Courses**

<u>CVE 697</u> Master's Research CVE/CHE/MCE 698 Master's Project

CVE/CHE/MCE 699 Master's Thesis

## **Research/Project Component**

A thesis or research project is required as part of the M.S. degree. A thesis is generally more theoretical, and usually involves laboratory work. A project might not involve lab work at all, and generally has a very strong industrial-application component. In most cases, full-time students take the thesis option and part-time students take the project option. Mathematical and computer modeling can be a major element in either option, and a free Internet connection is available to provide access to the CSU computer system from a home computer. Each student must publicly present and defend his or her thesis/project, and take at least six credit hours of appropriate course work. Note that Thesis or Project is generally taken during the semester in which the defense occurs. Students in the Civil and Environmental Engineering Department can apply research credit hours to either a thesis or a project. It will be determined in advance which departmental code (CVE, CHE, or MCE) is used in registration.

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#### PERSONAL M.S. PROGRAM

A faculty advisor is assigned for each student when he or she enters the M.S. program. The student must meet with the advisor to establish a personal program plan.

The personal program plan addresses which core competency courses are required, any engineering core courses for which a substitution is sought, the elective area of concentration, and the thesis/project requirements. This plan must be approved by the Environmental Engineering Coordinating Committee (EECC), which is comprised of Environmental Engineering Faculty.

If Core Competency Courses are required, the EECC may allow these courses to count as electives toward the degree, but not toward the elective area of concentration.

To receive approval for an Engineering Core Course, the student must submit a petition to the EECC requesting a course substitution for a specific elective course. This does not reduce the number of credit hours needed for graduation, but it allows individuals to take other electives.

The EECC also approves the choice of electives. These electives should be selected to strengthen expertise in an area of concentration. While a student may choose electives from more than one category, selections should be appropriate for the student's overall academic plan. A long-term tentative schedule of electives is posted to help students make decisions in advance.

Selecting a thesis/project faculty advisor should be done early in the program. The advisor helps the student establish a thesis/project Advisory Committee of faculty from the student's area of interest. After the committee has been established, the student must prepare a research proposal that must be approved both by the Advisory Committee and the EECC. The committee members also monitor the thesis/project.

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# **EXIT REQUIREMENTS**

Thesis students must follow the Thesis and Dissertation Format Guideline available through the Graduate College Office, Fenn Tower, Room 1111. Acceptance of the thesis by the graduate faculty committee and the passing of an oral defense of the thesis are required. A project option may be selected rather than a thesis. Projects tend to focus on applied engineering, and frequently address specific industry needs. A written report and oral defense are required for the project option.

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## **COURSES**

For engineering course descriptions, see the <u>Master of Science in Civil</u> <u>Engineering</u> and <u>Master of Science in Mechanical Engineering</u> sections of this Catalog.

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Master of Science in Engineering Mechanics

**Department of Civil and Environmental Engineering** 

Stilwell Hall 107 (216) 687-2400

www.csuohio.edu/civileng/ms\_engr\_mechanics.htm

### THE FACULTY

The Engineering Mechanics program is interdisciplinary in subject areas. Faculty members participate from the departments of Chemical, Civil and Environmental, and Mechanical Engineering.

## **Chemical Engineering** Mechanical Engineering

Professor:Professors:Surendra N. TewariJohn L. Frater

Rama S. R. Gorla

**Civil Engineering** Paul P. Lin

Professors: Paul X.

Bellini

Stephen Duffy

John H. Hemann

Associate Professor:

Paul A. Bosela

Associate Professor:

Majid Rashidi

#### INTRODUCTION

The Master of Science in Engineering Mechanics is an interdisciplinary program administered by the Department of Civil and Environmental Engineering

The objective of the degree program is to train students in the analytical and computational methods of structural mechanics, the analysis of the mechanical behavior of solids, the fundamentals of material science, and the processing of materials. Recent advances in computational solid mechanics with computer-based algorithms have revolutionized the ability to simulate intelligently both linear and nonlinear structural phenomena. The engineering of advanced materials requires expertise ranging from stress analysis to materials science. Due to this diversity, the program is interdisciplinary in nature with contributions from the Chemical, Civil and Environmental, and Mechanical Engineering graduate programs. It also prepares students for continued study in the Doctor of Engineering program. Two areas of specialization are available:

- 1. Structural Mechanics
- 2. Mechanics and Materials

The Structural Mechanics track considers analytical and computational approaches to mechanics and materials. Numerical formulations and computer simulations of basic structural and material phenomena from a stress/strain viewpoint are emphasized. The Mechanics and Materials track concentrates on the material science aspects of materials, including the laboratory testing and development and investigation of new engineered materials. All students must complete a common set of core courses specified below.

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## **FACULTY RESEARCH**

Students may become active participants in the following areas of faculty research:

- Research in nonlinear finite element analysis, including the development of automatic incremental algorithms and the formulation of advanced shell element capabilities.
- Deformation processing of materials, including computer simulation of

forging, rolling, and extrusion.

- Non-Destructive Evaluation (NDE) of material properties, including location and size of flaws, voids, and impurities; materials include polymer, matrix, and ceramic composites.
- Solidification processing, development of elevated temperature materials, atomization-consolidation, and evaluation of powder metallurgy superalloys.
- Development of optimal methods for vapor phase lubrication of metals, ceramics, and composites.
- Structural reliability and probabilistic mechanics, inelastic deformation, analysis of powdered metals, metal matrix composites, and ceramic matrix composites.

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## **FACILITIES**

New laboratory facilities are available as part of the renovation of Stilwell Hall. A strength of materials laboratory, an experimental stress lab, and a materials laboratory are included. The Engineering College has a scanning electron microscope, an X-ray diffraction system, an ultrasonic testing facility, four tension-compression testing machines, and a computer-controlled MTS dynamic/fatigue test machine.

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#### FINANCIAL ASSISTANCE

Graduate teaching and research assistantships are available to qualified students. Assistants receive tuition support and a stipend. Information about assistantships may be obtained by contacting the Civil and Environmental Engineering Department.

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#### ADMISSION INFORMATION

Students with undergraduate degrees in civil or mechanical engineering may be admitted directly to the Structural Mechanics track. Students with undergraduate degrees in chemical, civil, mechanical, or materials engineering may be admitted directly to the Mechanics and Materials track. Students with degrees in other areas of engineering or science may qualify for admission after completing prerequisite courses. A minimum baccalaureate grade-point average of 2.75 is normally required.

The GRE General section is required if one or more of the following conditions is true:

- The undergraduate degree was awarded by a college or university outside of the United States, or by a Canadian institution not accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.
- An unaccredited college or university awarded the undergraduate degree.
- The student's undergraduate cumulative grade-point average is below 2.75.
- The year of the baccalaureate degree precedes the date of application to the Graduate College by more than six years; however, in this case, the examination requirement may be waived, with program approval, if the applicant's undergraduate grade-point average is 3.00 or above.

If the GRE is required, minimum scores at the 50th percentile on the Analytical and 80th percentile on the Quantitative sections are normally required.

International students should refer to the section earlier in this Catalog for information on testing requirements to demonstrate English-language proficiency.

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## **DEGREE REQUIREMENTS**

In addition to the College of Graduate Studies degree requirements, students in either track must satisfy the following requirements:

- 1. 30 credit hours are required for the degree.
- 2. A student must complete the following core courses:

#### **Structural Mechanics Track**

MME 510 Structure of Materials

MME 511 Matrix Methods of Structural Analysis

MME 512 Finite Element Analysis I

MME 513 Advanced Strength of Materials

MME 604 Elasticity

### **Mechanics and Materials Track**

MME 510 Structure of Materials

MME 513 Advanced Strength of Materials

MME 524 Nondestructive Evaluation

MME 604 Elasticity

- 3. With an advisor's approval, a maximum of six credits of 400-level courses that are not offered by the departments of Chemical, Civil and Environmental, and Mechanical Engineering may be applied toward the degree. The remaining elective courses are selected from engineering courses numbered 500 and above, with advisor approval. All MME courses are cross-listed with existing courses in the Chemical, Civil and Environmental, and Mechanical Engineering departments. Non-MME courses must be approved in advance by the graduate review committee.
- 4. A six-credit thesis or three-credit research project is required of each student. A graduate committee is required to guide thesis work. A faculty advisor is required for the research project.
- 5. On or before completing nine credit hours of course work, a student must submit a plan of study, which requires both advisor and program committee approval.
- 6. Students must give an oral presentation of the completed thesis or project.

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## **EXIT REQUIREMENTS**

Theses must follow the format noted in Thesis and Dissertation Format Guidelines available from the Graduate College, Fenn Tower, Room 1111. Acceptance of the thesis by the committee and the passing of an oral defense of the thesis are required.

Research project students must present an acceptable written report to the faculty advisor and give an oral presentation of the research activity to the program faculty. Return to top [ CATALOG SITE MAP] [ SITE MAP-TEXT ONLY] [ GRADUATE CATALOG HOME]



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# electrical engineering





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## Master of Science in Electrical Engineering

# **Department of Electrical and Computer Engineering**

Stilwell Hall 332 (216) 687-2589

www.csuohio.edu/electrical engineering/

### THE FACULTY

**Professors: Adjunct Professors:** 

Tianli Chia James H. Burghart George L. Kramerich

Eugenio Villaseca, Chair

Fuqin Xiong

Louis R. Nerone

**Emeritus Faculty:** 

**Associate Professors:** Chandra P. Goradia

Manju Ghalla Goradia

Pong P. Chu Eugene A. Klingshirn

John F. Donoghue James E. Maisel Zhiqiang Gao A. Haq Qureshi

Murad Hizlan Ronald G. Schultz

Vijaya K. Konangi

Chansu Yu

## **Assistant Professors:**

Dan Simon Ana Stankovic

#### INTRODUCTION

The Master of Science program in Electrical Engineering integrates theory and applications. Courses are normally scheduled in the late afternoon and early evening to serve the needs of both full-time and part-time students. The program is suitable for students planning to continue their studies at the doctoral level as well as for those who do not plan formal studies beyond the master's degree.

Students interested in the doctoral program may consult the Doctor of Engineering program description in this Catalog. Each student plans a program of study in consultation with an advisor appointed by the Department of Electrical and Computer Engineering. The program includes required courses and an integrated selection of courses in the student's field of interest.

The following areas of specialization are offered for graduate study and research:

- Communication Systems
- Computer Systems
- Control Systems
- Power Electronics and Power Systems

The Electrical and Computer Engineering Department maintains the following laboratories for instructional purposes:

- Communications and Electronics Laboratory, fully equipped to conduct experiments in analog and digital electronics, and analog and digital communications, such as analog modulation and demodulation (AM and FM), digital modulation and demodulation (ASK, PSK, FSK), phase-locked loops, and baseband transmission.
- Power Electronics and Electric Machines Laboratory, equipped with line-frequency single- and three-phase converters, switch-mode converters, which in combination with synchronous, induction, and dc machines allow for the experimental study of feedback controlled motor drives.
- Embedded Systems Laboratory, equipped with PCs for writing and implementing micro-controller-based assembly code software, which allows for the experimental study of real-time interrupt handling, analog-to-digital conversion, serial port reception/transmission, data

- acquisition, communicating with external devices, and other issues associated with embedded systems.
- Control Systems Laboratory, equipped to conduct experiments and projects in real-time data acquisition and control, including the capability for modeling and computer control of electromechanical and liquid level systems.
- **Digital Signal Processing Laboratory**, equipped to conduct experiments in real-time DSP using A/Ds, D/As, and DSP boards.
- **Digital Systems Laboratory**, equipped with logic analyzers, testing equipment, prototyping boards, and workstations running synthesis and simulation software; it is used to conduct basic digital circuit experiments as well as to design, prototype, and test large systems.

The following facilities also are available to support research:

- **Applied Control Research Laboratory**, equipped to conduct joint research projects with industry, giving students the opportunity to apply state-of-the-art technology in real-world problem solving.
- Digital Systems Research Laboratory, equipped with workstations and testing equipment to do prototyping and implement research projects.
- Embedded Control Systems Research Laboratory, focuses on the development of real-time control and signal processing software. The software is implemented in micro-controllers and digital signal processors (DSPs) and the target applications include field-oriented motor control.
- Power Electronics and Electric Machine Research Laboratory, centered around the following: two integrated test benches on which each machine has its own power electronic converter; state-of-the-art DSP development system used to generate digital control algorithms for power converters in combination with electric machines; a range of commercial machines, dynamometers, and modern digital instrumentation.
- Power Systems Research Laboratory, fully equipped to conduct research projects in power engineering requiring personal computers, workstations, or mainframe computers.
- **General-purpose computer laboratory,** equipped with fully networked Sun workstations and a variety of software packages for graduate research.

• Laboratories at the NASA Glenn Research Center for students supported by NASA.

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#### FACULTY RESEARCH AND PUBLICATIONS

The members of the Electrical and Computer Engineering faculty are engaged in research in several areas suitable for student theses and dissertations. These include computer architectures, reconfigurable computing systems, computer communication networks, bandwidth and power-efficient modulation schemes, error-control coding, multi-carrier communications, spread spectrum systems, mobile communication systems, robust communications, power systems operation and control, power electronics and motor drives, system identification, advanced control algorithms, and intelligent control systems. Results of research in these areas are regularly published in refereed journals, such as *Transactions of IEEE* and *IEE Proceedings*, and are presented at scholarly conferences and symposia.

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#### FINANCIAL ASSISTANCE

The Department of Electrical and Computer Engineering offers a number of research and teaching assistantships and tuition grants. In addition, internships sponsored by the NASA Glenn Research Center and General Electric, and fellowships awarded by the Ohio Space Grant Consortium are available.

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#### ADMISSION INFORMATION

Admission to the graduate program in electrical engineering is open to qualified students with baccalaureate degrees in engineering or science. A minimum baccalaureate grade-point average of 3.00 is normally required.

The GRE General section is required if one or more of the following conditions is true:

 The undergraduate degree was awarded by a college or university outside of the United States or Canada, or by a Canadian institution not accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.

- An unaccredited college or university awarded the undergraduate degree.
- The undergraduate degree was in a discipline unrelated to electrical or computer engineering.
- The student's undergraduate cumulative grade-point average is below 3.00.
- The year of the baccalaureate degree precedes the date of application to the Graduate College by more than six years.

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# **DEGREE REQUIREMENTS**

Students in the M.S. in Electrical Engineering program may elect a thesis option or a non-thesis option. Students who receive financial assistance are required to complete the thesis option. All students, and particularly those intending to pursue a doctoral degree, are encouraged to select the thesis option.

Each student in the program must meet all Graduate College requirements and, in addition, must meet the following departmental requirements:

# **Program Options**

## 1. Thesis Option:

- a. A minimum of 30 total credit hours, including six credit hours of thesis, and at least two 600-level EEC courses.
- b. Successful completion and defense of a thesis. A graduate committee guides the thesis work.

#### 2. Non-thesis Option:

- a. A minimum of 32 total credit hours, including at least three 600-level EEC courses.
- b. A maximum of eight credit hours of graduate course work outside of the department may be applied toward the degree with advance approval from the student's advisor.
- c. The seminar course EEC 601 and 400-level courses are not

- eligible for credit toward the M.S. degree.
- d. On or before completing eight credit hours of course work, a student must submit a plan of study that requires both advisor and program committee approval.
- e. Thesis students must give an oral presentation of the thesis.

## **EXIT REQUIREMENTS**

Thesis students must follow the Thesis and Dissertation Format Guidelines available from the Graduate College. Acceptance of the thesis by the thesis committee and the passing of an oral defense of the thesis are required. Non-thesis students must complete the course requirements.

For further information about the M.S. in Electrical Engineering program, contact the department at (216) 687-2589.

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ADDENDA

engineering:

# civil engineering





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## Master of Science in Civil Engineering

## **Department of Civil and Environmental Engineering**

Stilwell Hall 107 (216) 687-2400 www.csuohio.edu/civileng/ms\_civil\_engr\_.htm

### THE FACULTY

## **Professors:** Associate Professors: Adjunct Faculty:

Paul X. Bellini
Stephen F. Duffy
John H. Hemann
Yung-Tse Hung
Mark Tumeo

Paul A. Bosela, Chair
Philip H. DeGroot
Nilufer Dural
William G. Fleck
Lutful I. Khan
Walter M. Kocher
John J. Tomko

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### INTRODUCTION

The graduate program in civil engineering is designed to provide the student with a knowledge of advanced methods for analysis and design or for research and development. The student must select one of the following graduate specializations: Structures/Foundations or Water Resources Engineering.

Each specialization requires the completion of a set of core courses shown below.

# **Structures and Foundations Core Courses**

- CVE 511 Matrix Methods of Structural Analysis
- CVE 512 Finite Element Analysis I or
- MCE 580 Finite Element Analysis I
- CVE 517 Structural Vibrations or
- CVE 530 Advanced Soil Mechanics
- CVE 531 Advanced Foundations

Any 500-level CVE Structural Design Course

# Water Resources

#### **Core Courses**

- CVE 561 Hydrologic Analysis
- CVE 562 Open Channel Hydraulics
- CVE 563 Water Resources Engineering
- CVE 564 Groundwater Hydrology
- CVE 570 Environmental Chemistry or
- CVE 572 Biological Principles of Environmental Engineering

Full-time and part-time study may be pursued.

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#### FACULTY RESEARCH AND PUBLICATIONS

Areas in which students may conduct thesis or project research are reflected by the research interests and publications of the faculty. These areas include concrete and steel structures, structural mechanics and dynamics, experimental stress analysis, stress analysis, elasticity, constitutive modeling, composite materials, stress wave propagation, ultrasonics, nondestructive evaluation, finite elements, fracture mechanics, soil mechanics, foundations, water resources, and hydraulics.

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#### FINANCIAL ASSISTANCE

Graduate teaching and research assistantships and tuition grants are available to qualified students on a competitive basis. Applicants who are seeking an assistantship should so indicate on the Application for Graduate Admission.

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#### **CAREER INFORMATION**

Working as a project engineer for a consulting firm; performing research in a government laboratory; conducting analysis, design, and research in industry; or managing a public works facility are career activities of graduates of the M. S. in Civil Engineering program. Recent graduates are working as a structural designer, a ceramics researcher, and a stress analyst. Job prospects for holders of advanced degrees in civil engineering are excellent at this time.

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#### **ADMISSION INFORMATION**

Admission to the graduate program in civil engineering is open to qualified students with a baccalaureate degree in engineering or science. A minimum baccalaureate grade-point average of 2.75 is normally required. The applicant must have successfully completed those courses common to accredited undergraduate programs in engineering or engineering science, including the following: statics, dynamics, mechanics of materials, one year of physics, and mathematics, up to and including ordinary differential equations. Additional course work may be required to satisfy deficiencies in the student's undergraduate preparation for the program.

The GRE General section is required if one or more of the following conditions is true:

- The undergraduate degree was awarded by a college or university outside of the United States, or by a Canadian institution not accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.
- An unaccredited college or university awarded the undergraduate degree.
- The student's undergraduate cumulative grade-point average is below 2.75.

• The year of the baccalaureate degree precedes the date of application to the Graduate College by more than six years; however, in this case, the examination requirement may be waived, with program approval, if the applicant's undergraduate grade-point average is 3.00 or above.

If the GRE is required, minimum scores at the 50th percentile on the Analytical and 80th percentile on the Quantitative sections are normally required.

International students should refer to the section earlier in this Catalog for information on testing requirements to demonstrate English language proficiency.

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# **DEGREE REQUIREMENTS**

In addition to University requirements, a master's candidate is subject to the following regulations:

- 1. Completion of the core courses for the selected specialization.
- 2. A minimum of 24 credits of course work is required for students following the thesis option. These students must complete a minimum of six credits of thesis (a maximum of six credits count toward the degree).
- 3. A non-thesis option also is available, with advisor approval. Students following the non-thesis option must complete a minimum of 30 credit hours for the degree.
- 4. A maximum of six credit hours of course work may consist of approved 400-level courses.
- 5. Course work may include a maximum of nine credits of graduate-level course work performed at other institutions.
- 6. A maximum of four credits of Special Topics may be used for the master's degree.
- 7. A maximum of nine credits may be taken outside of the department with advisor approval.

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# **EXIT REQUIREMENTS**

Thesis students must submit a thesis to their graduate committee following the *Thesis and Dissertation Format Guidelines* available from the Graduate College Office, Fenn Tower, Room 1111. Acceptance of the thesis by the

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business administration

education

engineering

health professions

natural sciences

social and behavioral

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CERTIFICATE AREAS

ADDENDA

engineering:

# chemical engineering





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# Master of Science in Chemical Engineering

# **Department of Chemical Engineering**

Stilwell Hall 455 (216) 687-2569

E-mail: che@csuohio.edu

www.csuohio.edu/chemical\_engineering/

# THE FACULTY

#### **Professors:**

George A. Coulman, *Emeritus*Bahman Ghorashi
Edward S. Godleski, *Emeritus*Simon Rekhson, *Research Professor*Dhananjai B. Shah

Orhan Talu, *Chair* Surendra N. Tewari

# **Associate Professors:**

Annath Annapragada Joanne M. Belovich Jorge E. Gatica

**Assistant Professors:** 

# Cleveland Clinic Foundation Collaborative Faculty:

Brian Davis, Associate Professor Kathleen A. Derwin, Associate

Professor

Aaron Fleischman, *Assistant Professor* K. Jane Grande-Allen, *Assistant* 

Professor

Bala Gopakumaran, Assistant Professor Cahir McDevitt, Associate Professor Shuvo Roy, Assistant Professor Raj Shekhar, Associate Professor William A. Smith, Associate Professor Antoine J. van den Bogert, Associate

Professor

Ivan Vesely, Associate Professor Guang Yue, Assistant Professor

George P. Chatzimavroudis

Rolf Lustig Sridhar Ungarala

*Note:* In addition to the Master of Science in Chemical Engineering degree described below, the Department of Chemical Engineering administers specializations in Chemical Engineering and Applied Biomedical Engineering (ABE) as part of the Doctor of Engineering program in the College of Engineering. For details, see the Doctor of Engineering section of this Catalog.

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#### INTRODUCTION

The graduate program in chemical engineering provides advanced training in core areas and allows the student to take courses on an advanced level in specific areas of interest.

The master's program is designed to meet the needs of both part-time and full-time students. It provides an opportunity for students to hold full-time employment and further their education on a part-time basis. Full-time students can complete the program in one year. The program meets the needs of students planning to continue their studies at the doctoral level as well as students terminating their formal studies at the M.S. level.

Research activities of the faculty provide many opportunities for students to select projects applicable to a Master's Thesis (CHE 699) or a Master's Project (CHE 698). Research areas include reaction engineering, process modeling and control, tribology and surface phenomena, biochemical and biomedical engineering, material synthesis and processing, combustion, adsorption and diffusion in zeolites, transport phenomena, fluid mechanics, separation processes, statistical mechanics, glass forming, thermodynamics, and management of technology. The department is particularly strong in applications involving materials and biomedical engineering.

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#### FACULTY RESEARCH AND PUBLICATIONS

Excellent facilities are available in support of student and faculty research. Faculty and students have local and remote access to personal and mainframe computer resources. Large-scale computational problems can be solved, via remote Login, at national centers for supercomputer applications. The depart-

ment has a number of new instruments and research units. These include a high-temperature TGA/DTA, two Cahn micro balances, two scanning electron microscopes with x-ray dispersion analysis capability, a laser doppler velocimeter, a high-performance Berthy reactor, a fully instrumented bioreactor, a wear and friction testing and analysis unit, a high-pressure liquid chro-matographic unit, a mercury porosimeter, two surface area analyzers, FTIR spectrometer, and an atomic force microscope/scanning-tunneling microscope. In addition, each research laboratory has appropriate instrumentation specific to the projects. The support equipment in the department, along with faculty activity, provides outstanding research opportunities for graduate students. Students specializing in biomedical engineering can perform their research at the world-class research laboratories of The Cleveland Clinic Foundation.

External agencies presently provide over \$1,500,000 to support faculty research activities. Ongoing research projects, with the sponsoring agencies noted in parentheses, include:

- Characterization of zeolites (Engelhard Corporation, BOC, Air Products & Chemicals)
- Bioreactors for mammalian cell culture (NASA)
- Adsorption and diffusion in zeolites (State of Ohio, NSF)
- Glass fiber drawing (Department of Energy)
- Drug delivery technologies (Whitaker Foundation, Aerogen, Alza, Aeropharm)
- Cardiovascular Magnetic Resonance Imaging and blood flow mechanics (Siemens, State of Ohio)
- Microsegregation in directionally solidified alloys (NASA)
- Influence of convection on solidification morphology (NASA)
- Multi-functional reactors in the chemical process industry (State of Ohio)
- High-temperature lubrication (NASA, CAMP, and Great Lakes Chemical)

Faculty members have presented their research at national and international conferences and have published in such prestigious journals as *The American Institute of Chemical Engineers Journal, Chemical Engineering Science, Combustion Science and Technology, Zeolites, Metallurgical Transactions, Journal of Colloid and Interface Science, Lubrication Engineering, Industrial Engineering Chemistry Research, Journal of Physical Chemistry, Computers and Chemical Engineering, Chemical Engineering Education, Latin American Applied Research, HVAC&R Research, International Journal of Fluid Mechanics, and International Journal of Engineering Science. Detailed descriptions of ongoing research projects as well as a list of recent faculty publications are available from the department on request or from the department Internet home page at www.csuohio.edu/chemical\_engineering/* 

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#### FINANCIAL ASSISTANCE

Graduate teaching and research assistantships are available to qualified students. Students receiving assistant-ships are required to complete a master's thesis. Interested students should check the appropriate square on the Graduate Application form. Policies concerning assistantships appear in the front section of this Catalog.

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#### **CAREER INFORMATION**

The Chemical Engineering program prepares students for careers in design, operation, research, or management. While graduates of this program traditionally find employment in the chemical industry, more chemical engineering graduates are being employed in the areas of general manufacturing and computer engineering, including polymer and composite processing and materials engineering. Many companies seek graduate chemical engineers to work in the areas of bioengineering, energy management, and environmental engineering.

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#### ADMISSION INFORMATION

Admission to the graduate program in chemical engineering is open to qualified students with a baccalaureate degree in engineering or science, who present satisfactory evidence of ability to pursue graduate studies. A minimum baccalaureate grade-point average of 2.75 is normally required. Programs of study have been developed for students with non-chemical engineering backgrounds. Such students are required to take prerequisite courses in chemical engineering, as described under the "Preparatory Program" section.

Applicants should make arrangements to have their official transcripts sent directly from their undergraduate institutions to the Graduate Admissions Office. Two letters of recommendation from individuals familiar with the student's undergraduate or graduate work also are required.

If applicable, the applicant also should request that official test scores for the Test of English as a Foreign Language (TOEFL) and Graduate Record Examination (GRE) be sent directly by the testing agencies. The applicant must

achieve satisfactory scores in these examinations.

The GRE General section is required if one or more of the following conditions is true:

- The undergraduate degree was awarded by a college or university outside of the United States, Australia, Canada, Ireland, New Zealand, or the United Kingdom.
- An unaccredited college or university awarded the undergraduate degree.
- The student's undergraduate cumulative grade-point average is below 2.75.
- The year of the baccalaureate degree precedes the date of application to the Graduate College by more than six years; however, in this case, the examination requirement may be waived, with program approval, if the applicant's undergraduate grade-point average is 3.00 or above.

If the GRE is required, minimum scores at the 50th percentile on the Analytical and 80th percentile on the Quantitative sections are normally required.

International students should refer to the section earlier in this Catalog for information on testing requirements to demonstrate English language proficiency.

There is a preparatory program designed for students with an insufficient background in chemical engineering to provide them with a common background in engineering science and mathematics.

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#### THE PREPARATORY PROGRAM

Graduate students who have an undergraduate background in a field other than chemical engineering are required to enroll in the Preparatory Program. This program is intended to prepare students for graduate courses in chemical engineering. The program consists of course work in the following areas:

- **CHE 300** Chemical Engineering Principles (4-0-4) (Offered fall and spring semesters)
- **CHE 302** Chemical Engineering Thermodynamics (4-0-4) (Offered fall semester only)
- **CHE 306** Transport Phenomena (4-0-4)

(Offered fall semester only)

- **CHE 404** Chemical Reactor Design (3-2-4)
  Prerequisites: Chemical Engineering Thermodynamics and Transport
  Phenomena, or equivalent background (Offered spring semester only)
- **CHE 408** Separation Processes (4-0-4)
  Prerequisites: Chemical Engineering Thermodynamics and Transport
  Phenomena. (Offered spring semester only)

Depending on the student's background, additional courses in mathematics and chemistry may be required. Students should call the Chemical Engineering Department at (216) 687-2571 to set up an appointment with the Graduate Program Coordinator prior to registering for classes.

Prior to satisfactory completion of the entire Preparatory Program, no course may be taken toward the fulfillment of the graduate degree program unless authorized by the academic/research advisor.

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# **DEGREE REQUIREMENTS**

The graduate program consists of a minimum of 30 credit hours of approved courses. These credits are distributed as follows:

1. Core courses (12 credits):

<u>CHE 502</u> Advanced Thermodynamics (four credits)

<u>CHE 506</u> Advanced Transport Phenomena (four credits)

and one of the following:

<u>CHE 504</u> Advanced Reactor Design (four credits) *or*<u>CHE 508</u> Advanced Separation Processes (four credits)

2. A minimum of **nine credits** of graduate elective courses, subject to advisor approval. One of these courses may be in a technical discipline outside of chemical engineering. This course also may be at the 400

level. No courses required in the undergraduate chemi-cal engineering

3. All students are required to present a seminar on their research.

program may be applied for graduate credit.

4. Students must select either a thesis option or a project option. The require-ments for each of the options, in addition to those described above, are as follows:

# a. Thesis option (nine credits)

The student plans and completes a research project, which may lead to publication in peer-reviewed scientific journals, under the direction of a faculty advisor. The student must enroll in at least nine credits of CHE 699 (Master's Thesis). This option is designed for the student who wants extensive research experience and a focus within a particular field.

# b. Project option (nine credits)

The student completes a research project under the direction of a faculty advisor. The student must enroll in three credits of CHE 698 (Master's Project) and an additional six credits of chemical engineering graduate electives. This option is designed to provide the student with a broader education in chemical engineering, as well as to give some experience in research techniques.

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# **EXIT REQUIREMENTS**

Students must achieve at least a 3.00 grade-point average to graduate. Thesis students must submit a thesis to their graduate committee following the *Thesis and Dissertation Format Guidelines* available from the Graduate College Office, Fenn Tower, Room 1111. Accep-tance of the thesis by the graduate committee and passing an oral defense of the thesis are required. Non-thesis students must prepare and present a formal report of their research project, and present their results in a public seminar.

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# doctor of engineering





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# **Doctor of Engineering**

# **College of Engineering**

Stilwell Hall 104 (216) 687-2555

www.csuohio.edu/engineering/pg\_doctor\_eng.html

#### **FACULTY**

All graduate faculty, including adjunct faculty, in the following departments of the Fenn College of Engineering:

- Chemical Engineering
- Civil and Environmental Engineering
- Electrical and Computer Engineering
- Industrial and Manufacturing Engineering
- Mechanical Engineering

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#### INTRODUCTION

The Doctor of Engineering degree is granted in recognition of high

achievement in scholarship and an ability to apply engineering fundamentals to the solution of complex technical problems. Students are expected to pursue a broad program of study, pass all prescribed examinations, and submit an innovative, high-quality applied engineering dissertation as described in the section on Degree Requirements.

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#### FACULTY RESEARCH AND PUBLICATIONS

Faculty members of the Fenn College of Engineering are very active in research sponsored by government agencies and industry. Involvement in research activities provides an excellent educational opportunity for students to advance their technical knowledge and professionalism while accomplishing dissertation work. The majority of doctoral students are involved with faculty in sponsored research, and all students are expected to be involved in some form of faculty/student research as part of the dissertation work. High-quality research should lead to publication of the project's contribution to the body of science.

There are over 70 active research projects in the College. The sampling of the topics presented below reflects the broad interests and capabilities of the faculty and students.

Thermodynamics and Phase

Equilibria

Computational Fluid Dynamics

Multiphase Flow and Heat Transfer

Phase Change Heat Transfer Stirling Power and Refrigeration

**Technology** 

Environmental Engineering

**Tribology** 

Biochemical Engineering

Reactor Design

Adsorption and Diffusion

Sensor Technology

Modulation Techniques

ErrorControl Coding

Spread Spectrum Systems

Robust Communications

System and Control Theory Power Electronics and Motor Drives

Intelligent Control

Computer Communication Networks Power System Operation and Control

Neural Networks

Microwave Devices

Structural Analysis

**Vibrations** 

Finite Element Methods

Material Synthesis and Processing

Ceramics and Composite Materials

Gear Dynamics

*Turbomachinery* 

Rotor Dynamics

Robotics and Machine Vision

Dynamics and Control Manufacturing Systems

Real World Scheduling

Quality Control

Productivity Enhancement

The Advanced Manufacturing Center provides additional opportunities for

students to work directly with local industrial sponsors on current research problems in advanced manufacturing technologies. The Center encourages research and intensive faculty interaction with local industry in a number of fields, including:

Reliability and Maintainability
High Temperature Vapor Phase Lubrication
Forging and Extrusion Simulation
Shop-Floor Control, MRP, and related subjects
Environmental Engineering

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#### FINANCIAL ASSISTANCE

Financial assistance is available on a limited basis in the form of research and teaching assistantships. All students interested in assistantships must meet and maintain the requirements specified by the College of Graduate Studies as described in the front section of this Catalog under Expenses and Financial Aid: Graduate Assistantships.

Research assistantships are provided through sponsored research activities; the number available at a given time is dependent on the research activity within the College. Interested students are encouraged to discuss the availability of assistantships and potential research projects with the program director, department chairs, and faculty as soon as possible.

Teaching assistantships are provided by individual departments to provide assistance with classroom and laboratory courses. Responsibilities can include conducting classroom recitation sessions, setting up laboratory experiments, tutoring students in class work, grading, monitoring tests, etc. For further information, students should contact the respective department chairs.

All graduate teaching assistants who are international students are required to pass an English Language Proficiency Examination, which is administered by the University Testing Center.

Students are expected to work 20 hours per week on their assistantship assignments unless fewer hours are specified under the terms of their contracts. A limited number of tuition grants also are available for which students are expected to work 10 hours per week.

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# **CAREER INFORMATION**

The major objective of advanced graduate study in engineering is to enhance the student's preparation for a career as a professional in education or research. The doctoral program is designed to strengthen the individual's ability to apply creative leadership in the solution of important and complex technological problems. Graduates of the doctoral program have assumed positions in industry, government agencies, and educational institutions.

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#### CSU-YSU COOPERATIVE AGREEMENT

Through a cooperative agreement between CSU and Youngstown State University (YSU), students who live in close proximity to YSU may pursue the Doctor of Engineering Degree offered by CSU by completing some degree requirements at YSU, after consultation with CSU and YSU advisors. Youngstown-area students who choose a YSU faculty member as co-advisor with the CSU dissertation advisor may complete a maximum of 12 credits of doctoral dissertation requirements at YSU. Students interested in this program should consult the Doctor of Engineering Director at CSU or their YSU advisor.

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#### **ADMISSION INFORMATION**

The applicant must hold a master's degree in engineering or in a related science discipline, such as chemistry, physics, or mathematics, or an M.D. At least one degree (baccalaureate or master's) must be in engineering. A minimum master's grade-point average of 3.25 is required.

The GRE General section is required if one or more of the following conditions pertains:

- The student's most recent engineering degree was awarded by a college or university outside of the United States, or by a Canadian institution not accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.
- The student's graduate cumulative grade-point average is below 3.25.
- The year of the student's master's degree precedes the date of application to the Graduate College by more than six years.

If the GRE is required, minimum scores at the 50th percentile on the Analytical

and 80th percentile on the Quantitative sections are normally required.

International students should refer to the section earlier in this Catalog for information on testing requirements to demonstrate English language proficiency.

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# **DEGREE REQUIREMENTS**

The doctoral degree includes the following specific requirements:

- 1. A minimum of 61 credits beyond the master's degree. These credits must include:
  - a. Eight credits of doctoral core courses (select two of the following):
    - ESC 702 Applied Engineering Analysis I (four credits)
    - ESC 704 Applied Engineering Analysis II (four credits)
      ESC 706 Applied Engineering Analysis III (four credits)
  - b. Eight credits of graduate non-engineering courses related to the student's area of study and approved by the advisory committee and the Engineering College Graduate Affairs Committee
  - c. 12 credits of 700-level engineering electives, of which at least four credits must be design electives
  - d. Three credits of general graduate electives
  - e. A minimum of 30 credits for the dissertation.
- 2. Satisfactory completion of the qualifying examination.
- 3. Satisfactory completion of the doctoral candidacy examination.
- 4. Completion of the dissertation and the final oral examination.
- 5. Compliance with all the requirements of the College of Graduate Studies for regular graduate student status and graduation.

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# **EXIT REQUIREMENTS**

Doctoral students must follow the requirements described below.

**Advising** 

When a student is admitted, the Director of the Doctor of Engineering Program assigns an interim advisor who assists the student in completing a preliminary study plan. Before 16 credits of course work have been completed, the student must propose a dissertation advisor and begin plans for the dissertation. At the same time an advisory committee is appointed, with the dissertation advisor serving as chair. The student's dissertation advisor, in consultation with the student, recommends five members for the advisory committee. One member must be external to the Engineering College. Usually, an additional member is added when an off-campus, industrial advisor is involved in the dissertation work. This off-campus project advisor may be a member of the advisory committee but does not have voting rights. Students in the ABE specialization (see below) may include faculty from The Cleveland Clinic Foundation on their advisory committees. The Graduate Affairs Committee of the College (GAC) reviews the composition of the advisory committee and recommends approval or changes to attain a membership balance that is knowledgeable in all facets of the dissertation topic. Finally, an additional member may be selected by the Dean of the College of Graduate Studies.

The functions of the student's advisory committee are to approve a study plan and to approve a dissertation topic and proposal, each of which in turn must be approved by the College GAC. The student's advisory committee monitors the progress of the dissertation, approves the dissertation, and administers the oral defense.

#### **Examination**

Individuals admitted to the program become candidates for the Doctor of Engineering degree after:

- 1. Completing all prescribed course work;
- 2. Passing the qualifying examination; and
- 3. Passing the candidacy examination.

The purpose of the doctoral qualifying examination is to evaluate a prospective student's mastery of the subject matters that are fundamental to the chosen engineering discipline/concentration beyond what is demonstrated by the grades obtained prior to entering the doctoral program. The student must demonstrate broad understanding of engineering science and mathematics and special knowledge and readiness to pursue further study in a specific discipline/concentration. The examination should be taken as early as possible after admission to the doctoral program. Successful completion of this examination must be attained before the student exceeds 20 credit hours beyond the master's degree.

The student's performance on the qualifying examination determines the future course of study. Students who pass continue the program of study. Those who pass conditionally are subject to additional course work and/or re-examination (only one re-examination is possible). Students who fail are advised to leave

the program. The qualifying examination is administered by the Graduate Committee of the student's respective department. The minimum College standards require the examination to be written, open book, with at least two testing periods of three hours each. The examination is offered in fall and spring semesters. Students should determine from their department office the exact nature of their examination and the dates on which it is offered. All students intending to take the examination are required to notify their respective department office at least four weeks before the scheduled examination date.

The purpose of the doctoral candidacy examination is to assess a doctoral student's maturity and preparation to continue independent research in a specific research topic. The examination should be taken in a period of time not to exceed two years after successful completion of the qualifying examination. For the candidacy examination, the student must prepare a written dissertation proposal based on a scholarly review of literature in the dissertation area. The student's advisory committee administers the doctoral candidacy examination and determines the nature and duration of the examination. Based on the examination results, the student either passes and has the proposal accepted with a general understanding that the successful completion of the work presented result in the award of the Doctor of Engineering degree, or fails and has the proposal rejected. A student may repeat the candidacy examination a maximum of three times.

#### Dissertation

The dissertation, a concentrated, in-depth, independent study of an appropriate engineering problem, is the most distinguishing feature of doctoral study. At least 30 credits of dissertation work are required, which correspond to at least one year of full-time study. The dissertation advisor and advisory committee, after approving a dissertation topic, monitors the student's progress and approves the final written dissertation after a successful oral defense. A maximum of 10 hours of Doctoral Research may be counted as Doctoral Dissertation.

Once a student begins the dissertation study, he or she must register for a *minimum* of three credit hours per semester until the minimum of 30 credits is completed. After that, the student shall maintain a *minimum* registration of one credit hour per semester until the dissertation is completed.

The dissertation is not limited to the physical aspects of the engineering problem, but should include, where pertinent, economic considerations, environmental impact, social implications, and other interdisciplinary factors relevant to the specific topic.

In many cases, the dissertation study is conducted off-campus at an industrial or governmental setting. This type of off-campus study is defined as an internship; it gives the student an intimate and practical exposure to real

problems of engineering. The student's industrial internship dissertation project must be cleared for publication by the industrial or governmental organization at which the work is done. This written clearance must be included in the dissertation proposal.

The student intern has an off-campus advisor who may become a member of the student's advisory committee. This off-campus advisor is expected to work closely with the student and with the faculty dissertation advisor. However, the faculty dissertation advisor remains the chair of the advisory committee, ensuring that ultimate control of the dissertation resides with the University.

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#### APPLIED BIOMEDICAL ENGINEERING (ABE) SPECIALIZATION

The ABE specialization of the Doctor of Engineering program, initiated in the 1998 Fall Semester, is a unique partnership between the Fenn College of Engineering at CSU and The Cleveland Clinic Foundation (CCF). The Department of Chemical Engineering at CSU administers the ABE specialization. Faculty members from both the College and the Clinic provide academic instruction and research advising in ABE specialization areas.

ABE specialization is specifically designed for engineers who wish to pursue careers in biomedical research and development, primarily in industry. Students are expected to have a strong foundation in an engineering discipline, through their B.S. or M.S. degrees before entering the ABE program. The high-level course and research work empower the students to become productive employees immediately after graduation. ABE graduates are expected to:

- Understand disease mechanisms.
- Improve the quality of life for patients by utilizing technology.
- Educate the next generation of biomedical engineers.
- Contribute to the reduction of health care costs by diagnosing diseases more quickly and accurately and by introducing innovative technological solutions to health care costs.
- Address major societal health care issues by forming multidisciplinary teams of experts to formulate innovative approaches to health care.

Two unique educational features distinguishing ABE are:

- 1. Strong biological fundamentals, including cell and molecular biology, and
- 2. Inclusion of tools for success in real-world research and development.

These two features, along with highly specialized courses in specific areas of

biomedical engineering, enable ABE graduates to fill the gap between engineering and medicine.

Together the College of Engineering and the Department of Biomedical Engineering at CCF offer a rich spectrum of teaching and research resources aimed to:

- Provide quality education and training to students in Applied Biomedical Engineering,
- Undertake state-of-the-art applied research as complementary partners,
- Enhance the capacity for biomedical engineering teaching and research at regional, state, and national levels,
- Support personnel and technical needs of biomedical companies,
- Assist biomedical companies in moving from design to successful marketing of medical devices by drawing on the strengths of the Advanced Manufacturing Center, and
- Enhance the biomedical infrastructure in the northeast Ohio region.

# **ABE Requirements**

As a specialization within the Doctor of Engineering program, studies in the ABE program are governed by the regulations of the Doctor of Engineering program as stated above.

In addition to Doctor of Engineering requirements, students in the ABE specialization must:

- 1. Possess a working knowledge of college-level physiology. If taken at the graduate level, physiology may count as an elective.
- 2. Complete 12 credits of core ABE electives:

<u>CHE 751</u> Biomechanical Engineering (three credits)

CHE 753 Tissue Engineering (three credits)

CHE 755 Biomaterials (three credits)

CHE 757 Medical Device Design and Regulation (three credits)

3. Complete the eight credits of graduate-level non-engineering courses required for the Doctor of Engineering degree through doctoral-level courses in areas such as biochemistry, cell biology, or other biomedical topics.

The required 30 credits of doctoral research may be performed at either or both CSU or CCF depending on the chosen research topic and availability of facilities.

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# MOLECULAR MEDICINE PROGRAM

The Molecular Medicine Program is an interdisciplinary initiative linking the resources of the three CSU/CCF joint doctoral programs: Regulatory Biology, Clinical-Bioanalytical Chemistry, and Applied Biomedical Engineering. Although the Molecular Medicine Program is not a new academic program and does not replace existing programs, it forms a logical interface to coordinate collective efforts of the existing joint doctoral programs. For more information about graduate assistantships for outstanding candidates, contact the Department of Chemical Engineering.

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#### **COURSE LIST**

Required engineering core courses and technical electives are listed below. Additional technical electives are available from individual engineering departments and are listed elsewhere in this Catalog.

Additional information may be obtained from:

Director of the Doctor of Engineering Program Fenn College of Engineering Stilwell Hall, Room 104 Cleveland State University Cleveland, Ohio 44115 Telephone (216) 687-2555

# **Core Courses**

ESC 702	Applied Engineering Analysis I (4-0-4)
ESC 704	Applied Engineering Analysis II (4-0-4)
ESC 706	Applied Engineering Analysis III (4-0-4)

# **Courses in Applied Biomedical Engineering (ABE)**

<u>CHE 751</u>	Biomechanical Engineering (3-0-3)
CHE 753	Tissue Engineering (3-0-3)
CHE 755	Biomaterials (3-0-3)
CHE 757	Medical Device Design and Regulation (3-0-3)

# **Technical Electives in Chemical Engineering**

- CHE 702 Surface Phase Equilibria (3-0-3)
- CHE 703 Fundamentals of Adsorption (3-0-3)
- CHE 704 Multiphase Reactor Design (3-0-3)
- CHE 705 Advanced Kinetics (3-0-3)
- CHE 706 Advanced Mass Transfer (3-0-3)
- CHE 707 Advanced Heat Transfer (3-0-3)
- CHE 710 Phase Diagrams and Applications (3-0-3)
- CHE 712 Combustion Systems (3-0-3)
- CHE 714 Turbulent Flow (3-0-3)
- CHE 716 Advanced Numerical Methods (3-0-3)
- CHE 717 Process Optimization Methods (3-0-3)
- CHE 718 Catalysis (3-0-3)
- CHE 794 Selected Topics (3-0-3)
- CHE 895 Doctoral Research (one to 12 credits)
- CHE 899 Dissertation (one to 12 credits)

# **Technical Electives in Civil Engineering**

- CVE 704 Elasticity (4-0-4)
- CVE 709 Energy Methods in Structural Mechanics (3-0-3)
- CVE 711 Finite Element Analysis I (3-0-3)
- CVE 712 Finite Element Analysis II (3-0-3)
- CVE 713 Nonlinear Finite Element Analysis (3-0-3)
- CVE 714 Elastic Instability (3-0-3)
- CVE 720 Fracture Mechanics and Plasticity Theory (4-0-4)
- CVE 722 Fatigue Analysis (2-0-2)
- CVE 725 Viscoelasticity (2-0-2)
- CVE 765 Hydrologic Modeling (3-0-3)
- CVE 766 Groundwater Modeling (3-0-3)
- CVE 771 Physical and Chemical Principles of Environmental Engineering (3-
- (0-3)
- CVE 774 Industrial Waste Treatment (3-0-3)
- CVE 775 Environmental Engineering Laboratory (2-3-3)
- CVE 780 Biological Waste Treatment (3-0-3)
- CVE 782 Air Pollution Control Engineering Design (3-0-3)
- CVE 783 Occupational Health Engineering (3-0-3)
- CVE 785 Hazardous Waste Engineering Management (3-0-3)
- CVE 786 Hazardous Waste Site Remediation (3-0-3)
- CVE 793 Special Problems in Civil Engineering (one to four credits)
- CVE 796 Independent Study in Civil Engineering (one to four credits)
- CVE 897 Doctoral Research (one to 16 credits)
- CVE 899 Dissertation (one to 16 credits)

# **Technical Electives in Electrical and Computer Engineering**

- EEC 701 Graduate Seminar (1-0-1)
- EEC 710 Probability and Stochastic Processes (4-0-4)
- EEC 740 Advanced Control System Design (4-0-4)
- EEC 741 Multivariable Control (4-0-4)
- EEC 742 System Identification (4-0-4)
- EEC 743 Nonlinear Systems (4-0-4)
- EEC 744 Optimal Control Systems (4-0-4)
- EEC 745 Intelligent Control Systems (4-0-4)
- EEC 750 Signal Detection and Estimation (4-0-4)
- EEC 751 Digital Communications (4-0-4)
- EEC 752 Error Control Coding (4-0-4)
- EEC 753 Information Theory (4-0-4)
- EEC 754 Mobile Communications (4-0-4)
- EEC 755 Satellite Communications (4-0-4)
- EEC 770 Power Systems Operations (4-0-4)
- EEC 771 Power Systems Control (4-0-4)
- EEC 773 Power Electronics and Electric Machines (4-0-4)
- EEC 780 High Performance Computer Architecture (4-0-4)
- EEC 781 Distributed Computing Systems (4-0-4)
- EEC 782 Computer Networks I (4-0-4)
- EEC 783 Computer Networks II (4-0-4)
- EEC 784 Parallel Processing Systems (4-0-4)
- EEC 785 Modeling and Performance Evaluation of Computer Systems (4-0-4)
- EEC 786 Advanced Digital Design (4-0-4)
- EEC 793 Special Topics in Electrical Engineering (4-0-4)
- EEC 796 Independent Study in Electrical Engineering (one to four credits)
- EEC 895 Doctoral Research (one to 16 credits)
- EEC 899 Doctoral Dissertation (one to 16 credits)

# **Technical Electives in Industrial and Manufacturing Engineering**

- IME 741 Manufacturing Expert Systems (3-0-3)
- IME 752 Robotics and Machine Vision (3-0-3)
- IME 753 Robotics and Machine Vision Laboratory (0-3-1)
- IME 754 Advanced Industrial Automation and Control (3-0-3)
- IME 755 Systems Design and Integration Laboratory (0-3-1)
- IME 762 Advanced Production and Inventory Control (3-0-3)
- IME 764 Advanced Engineering Project Control (3-0-3)
- IME 775 Advanced Simulation Design and Analysis (3-0-3)
- IME 796 Directed Studies (3-0-3)
- IME 895 Seminar (no credit)

- IME 897 Doctoral Research (one to three credits)
- IME 899 Dissertation (three credits maximum of 12)

# **Technical Electives in Mechanical Engineering**

- MCE 710 Computational Fluid Flow and Heat Transfer (4-0-4)
- MCE 718 Engineering Plasticity (4-0-4)
- MCE 722 Energy Conversion (4-0-4)
- MCE 732 Gas Dynamics (4-0-4)
- MCE 738 Viscous Flow I (4-0-4)
- MCE 739 Viscous Flow II (4-0-4)
- MCE 741 Convection Heat Transfer (4-0-4)
- MCE 742 Advanced Conduction Heat Transfer (4-0-4)
- MCE 743 Radiation Heat Transfer (4-0-4)
- MCE 744 Heat Transfer with Phase Change (4-0-4)
- MCE 752 Robotics and Machine Vision (4-0-4)
- MCE 754 Computer Aided Design and Optimization (4-0-4)
- MCE 755 Acoustics (4-0-4)
- MCE 760 Lubrication (4-0-4)
- MCE 766 Advanced Control of Mechanical Systems (4-0-4)
- MCE 770 Turbomachinery Rotordynamics (4-0-4)
- MCE 780 Finite Element Analysis II (4-0-4)
- MCE 793 Selected Topics in Mechanical Engineering (4-0-4)
- MCE 796 Directed Study (one to four credits)
- MCE 895 Seminar (no credit)
- MCE 897 Doctoral Research (one, two four, or eight credits)
- MCE 899 Dissertation (one to 12 credits)

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# Master of Arts in Speech Pathology and Audiology

# **Department of Speech and Hearing**

Main Classroom 430 (216) 687-3807 www.csuohio.edu/speech/programs/graduate.html

#### THE FACULTY

**Clinical Assistant Professors: Professor:** 

David A. Metz. Emeritus

Howard Mims, *Emeritus* 

Arthur H. Schwartz

Benjamin Wallace, Chair

Judith L. Heyer

**Clinical Supervisors:** 

**Associate Professor:** Deanna G. Laurence

Sue Neff

Tony Sahley Myrita Wilhite

**Assistant Professors: Adjunct Professors:** 

Chloe Glasson **Douglas Hicks** 

Gordon B. Hughes Monica Gordon Pershey

Richard H. Nodar

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#### INTRODUCTION

The Master of Arts degree program in Speech Pathology and Audiology provides students with the necessary clinical and academic expertise to function in varied clinical, teaching, and research positions. The department maintains an active, nationally accredited, speech-language and hearing clinic and has student-training liaisons with many hospitals, clinics, and schools in the Greater Cleveland area. The M.A. in Speech Pathology and Audiology degree program is accredited by the Council of Academic Accreditation in Audiology and Speech-Language Pathology (CAA), a unit of the American Speech-Language-Hearing Association (ASHA).

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#### FACULTY RESEARCH AND PUBLICATIONS

Faculty members are active in a wide variety of research areas, and their research findings are published in international and national scholarly journals. The program features state-of-the-art facilities for research, instruction, and service delivery. Graduate students are encouraged to pursue independent research by completing a master's thesis.

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# FINANCIAL ASSISTANCE

The department offers graduate research and teaching assistantships from both University and grant support. Any student interested in applying for a graduate assistantship should so indicate on the application for Graduate Admission. Please refer to the section on Expenses and Financial Aid: Graduate Assistantships in the front of this Catalog.

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#### **CAREER INFORMATION**

Graduates of the program are working as speech-language pathologists in many different settings throughout the country and overseas. The majority of speech-

language pathologists accept positions in public schools, but openings often can be found in non-school environments such as hospitals, community clinics, and nursing homes. Increasingly, experienced speech-language pathologists are establishing themselves as private practitioners. Program graduates also may elect to pursue a Ph.D. in speech-language pathology at another university and should plan to do so if they intend to seek employment in a university or research facility.

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#### ADMISSION INFORMATION

Admittance into the program is limited by the capacity of the department to provide needed supervised clinical experience in multiple settings. Because admission is selective, not all applicants who meet the minimum requirements for graduate school entrance can be accepted.

Applicants for admission are required to submit the results of the Graduate Record Examination (GRE) or Miller Analogies Test (MAT) and two letters of recommendation from individuals who are familiar with their undergraduate academic and/or clinical performance. Although an undergraduate major in communication disorders is not required for admission to the program, students generally must complete six undergraduate courses before admission is possible. These courses are Speech and Language Development, Phonetics, Introduction to Communication Disorders, Introduction to Audiology, Clinical Methods in Communication Disorders, and Anatomy and Physiology of the Speech and Hearing Mechanism. Three additional undergraduate courses or their equivalents are required for clinical certification. These are Speech and Hearing Science, Audiometry, and Aural Rehabilitation.

The application deadline is March 1. Submit the Application for Graduate Admission (available at www.csuohio.edu/gradcollege/ and in the back of this Catalog), the \$30 application fee, and all admission materials (official transcripts, official test scores, if required, letters of recommendation, etc.) to the Graduate Admissions Office.

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#### **DEGREE REQUIREMENTS**

1. Students must earn a 3.00 grade-point average or higher in all required graduate courses, including any required graduate course(s) taken as a non-degree student.

- 2. Students must fulfill the course of study approved by their advisor.
- 3. Students must complete a minimum of 350 supervised clinical hours with at least 250 hours obtained at the graduate level.
- 4. Students pursuing a Master of Arts degree with a specialization in Speech-Language Pathology must successfully complete the following courses:
  - <u>SPH 510</u> Fundamentals of Research and Design
  - SPH 522 Diagnostic Methods
  - SPH 524 Motor Disorders/Dysphagia
  - SPH 532 Voice and Resonance Disorders
  - SPH 533 Neurogenic Communication Disorders
  - SPH 537 Fluency Disorders
  - SPH 561 Phonological and Articulatory Disorders
  - SPH 562 Advanced Language Disorders
  - <u>SPH 564</u> Behavioral Neurology for Communication Disorders *and either*
  - SPH 599 Thesis, or
  - SPH 591 Comprehensive Examination

Students also must complete a minimum of two credit hours from the following courses:

- **SPH 525** Augmentative Communication
- SPH 526 Medical Speech-Language Pathology
- SPH 529 Speech and Language of the Hearing Impaired
- 5. Students must successfully complete either a comprehensive examination or a master's thesis. A maximum of three credits may be taken for the comprehensive examination. A maximum of four credits may be counted toward the master's thesis.
- 6. Students desiring Ohio certification as a public school speech-and-hearing therapist must enroll in student teaching during their graduate study program. Approval for Ohio certification will be withheld until the successful completion of the master's program. (See EST 575 Practicum in Speech and Hearing Therapy, which is offered by the College of Education.)

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#### **EXIT REQUIREMENTS**

The department offers either a thesis or a comprehensive examination option. Students interested in pursuing a thesis must first complete an independent study with a graduate faculty member who is interested in directing the thesis. The thesis can begin upon completion of at least eight credit hours of graduate study plus the independent study preparatory to the thesis. The student must have a minimum 3.30 grade-point average in order to obtain approval for the thesis proposal. The student selects a committee that is composed of at least three graduate faculty members, including the chair and at least two other members. After approval of the thesis proposal, the student carries out the study with the support of the thesis committee. Upon acceptance of the completed thesis by the committee, the student is awarded the Master of Arts degree, provided all other academic and clinical requirements have been met.

Students electing to write a comprehensive examination in place of a thesis must have successfully completed at least 24 credit hours of graduate study with a minimum 3.00 grade-point average. The comprehensive examination consists of essay research questions. Students must register for SPH 591 Comprehensive Examination with the permission of their advisor.

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#### **CURRICULUM STRUCTURE**

In planning a curriculum leading to a Master of Arts degree in Speech Pathology and Audiology, a student must satisfy the specific requirements established by the American Speech-Language-Hearing Association (ASHA). These requirements partially fulfill the criteria leading toward the Certificate of Clinical Competence (C.C.C.) in speech pathology. In addition, a student must satisfy the specific requirements established by the State of Ohio Board of Speech Pathology and Audiology for State of Ohio Licensing in Speech-Language Pathology. Students must meet with their assigned advisor to ensure that all clinical and academic requirements for national certification and state licensure are fulfilled by the time they plan to complete their program of study.

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#### SPECIFIC ASHA GUIDELINES

1. Students must earn at least 75 credit hours that reflect a well-integrated program of study regarding: a) biological/physical sciences and mathematics; b) behavioral and/or social sciences, including normal

- aspects of human behavior and communication; and c) the nature, prevention, evaluation, and treatment of speech, language, hearing, and related disorders. All areas of academic course work must address issues pertaining to normal and abnormal human development and behavior across the life span and for culturally diverse populations.
- 2. At least 27 of the 75 credit hours must be in Basic Science course work, with a minimum of six credit hours in the biological/physical sciences and mathematics, and six credit hours in behavioral and/or social sciences. At least 15 credit hours must be in basic human communication processes, including course work in each of the following three areas of speech, language, and hearing: a) the anatomic and physiologic bases; b) the physical and psychophysical bases; and c) the linguistic and psycholinguistic aspects.
- 3. The student must earn at least 36 credit hours in courses that concern the nature, prevention, evaluation, and treatment of speech, language, and hearing disorders. At least 30 of the 36 credit hours must be in courses for which graduate credit was received, and at least 21 of these 30 credits must be in the professional area for which certification is sought. At least six of the 30 credits must be in speech disorders, and at least six must be in language disorders.
- 4. At least six of the 36 semester credit hours of professional course work must be in audiology. At least three of the six credits must be in hearing disorders and hearing evaluation, and at least three must be in habilitative/rehabilitative procedures for individuals with hearing impairment.
- 5. A maximum of six credit hours associated with clinical practicum may be counted toward the minimum 36 credit hours of professional courses, but these hours may not be used to satisfy the minimum of six credit hours in speech disorder, six hours in language disorders, or six hours in audiology, or in the 21 graduate credits in the professional area for which certification is sought.
- 6. Students must complete at least 25 clinical clock hours of supervised observation prior to beginning the initial clinical practicum. All supervision must be provided by an individual who holds a Certificate of Clinical Competence in the appropriate area of practice.
- 7. The student must submit evidence of the completion of a minimum of 350 supervised clinical clock hours with at least 250 received at the graduate level. Those students whose major is speech-language pathology must have completed the following minimum supervised clinical hours:
  - a. 20 clinical hours each in the evaluation of speech disorders in

- children and speech disorders in adults;
- b. 20 clinical hours each in the evaluation of language disorders in children and language disorders in adults;
- c. 20 clinical hours each in the treatment of speech disorders in children and speech disorders in adults;
- d. 20 clinical hours each in the treatment of language disorders in children and language disorders in adults;
- e. 35 clinical hours in audiology with a minimum of 15 hours in evaluation or screening of individuals with hearing disorders and a minimum of 15 hours in habilitation/rehabilitation of individuals with hearing impairment.

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# UNDERGRADUATE COURSES OPEN TO GRADUATE STUDENTS

SPH 431 Basic Speech-Language Disorders (4-0-4)

SPH 434 Clinical Practicum in Speech-Language Pathology (one to two credits)

SPH 435 Organization and Administration of a Public School Speech and

Hearing Program (3-0-3)

SPH 438 Seminar in Urban Language Patterns (3-0-3)

SPH 481 Aural Rehabilitation (3-0-3)

SPH 482 Audiometry (3-0-3)

SPH 485 Speech and Hearing Science (3-0-3)

SPH 486 Clinical Practicum in Audiology (one to two credits)

SPH 489 Aural Rehabilitation Practicum (one to two credits)

SPH 495 Speech Seminar (one to three credits)

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**PROGRAMS** 

# Master of Science in Health Sciences

# **Department of Health Sciences**

Health Sciences 101 (216) 687-3567 www.csuohio.edu/healthsci/ms.html

#### THE FACULTY

**Professor:** Associate Professors: Assistant Professors:

Bette R. Bonder, *Interim Chair* 

John J. Bazyk Roseanne L. Higgins Susan Bazyk Ann R. Karas

Vanina DalBello-Haas James A. Landis

Beth E. Ekelman Glenn D. Goodman John J. Jeziorowski Mary K. Milidonis Marilyn B. Wagner

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#### **INTRODUCTION**

The Master of Science in Health Sciences is a post-baccalaureate professional

degree designed to prepare health care professionals for emerging leadership roles in the rapidly changing health care environment and to expand opportunities for professional advancement. The goal is to enhance the clinical, educational, and administrative knowledge of individuals wishing to become more effective in their current practice, or to fill new roles in their own discipline or related arenas. Emphasis is on independent, self-directed learning and the development of diverse roles. This program is intended for practicing health care professionals.

Courses are offered evenings and on-line for the convenience of part-time students. The program has a core of five courses. In addition, it requires three courses in an area of emphasis, three electives and a capstone research project or thesis.

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#### **FACULTY RESEARCH**

Cleveland State faculty have research specializations in biomechanics, culture and health, meaning of occupation, epidemiology, exercise physiology, feeding interventions, gerontology, mental health, motor control, neuromuscular disorders, orthopaedics, pediatrics, the psychology of trauma, and therapy and legal issues. The Motion Analysis lab is a significant resource for a variety of research endeavors including gait analysis, vestibular concerns, and sports medicine.

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# FINANCIAL ASSISTANCE

A limited number of graduate assistantships are available to full-time students (minimum of nine credit hours per semester). Assistantships cover tuition and provide a stipend. Assistants may be involved in departmental projects, or work with individual faculty on specific research assignments. For more details, contact the Graduate Coordinator at (216) 687-3567 or e-mail the department at healthsci@csuohio.edu.

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#### **CAREER INFORMATION**

Graduates of the M.S. program in Health Sciences will be well prepared for careers in professional practice, education, applied research, or management in the health care field. Career opportunities are available in a variety of health care settings, including hospitals, clinics, eldercare facilities, and others.

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# **ADMISSION REQUIREMENTS**

Applicants must hold a baccalaureate or advanced degree from an accredited institution and be a health care professional.

Applicants must submit one official transcript for all colleges and universities attended, official test scores for the Graduate Record Examination (waived if GPA is above 3.00), and three letters of reference. Transcripts must be sent directly from colleges and universities previously attended. Test scores must be sent directly from the testing service. Application materials are to be sent to the Office of Graduate Admissions.

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#### PROGRAM OF STUDY

Students must see the Graduate Coordinator for advising each semester. The Coordinator will review the student's progress and plans, and sign the registration form.

A minimum of 36 credit hours of study is required, including specified core courses, a concentration, electives, and a completed capstone project.

**Core Courses** (15 credits). Required of all students:

**HSC 501** Issues in Health Sciences

**HSC 502** Leadership Roles in Health Sciences

HSC 503 Research and Analysis in Health Sciences

HSC 504 Seminar in Health Sciences Professions

HSC 505 Culture and Health Care

**Area of Emphasis** (nine credits).
Select one course from the following list:

**HSC 510** Principles of Evidence-Based Practice

- HSC 513 Outcomes Assessment
- HSC 523 Educational Evaluation in Health Sciences
- HSC 533 Program Development and Assessment

Select two additional HSC courses to meet professional interests:

- HSC 512 Evolving Technologies in Health Sciences
- HSC 521 Current Issues in Clinical Education
- HSC 522 Fundamentals of Curriculum in Health Sciences
- HSC 524 Functional Anatomy
- HSC 525 Clinical Application of Current Theories of Motor Development
- HSC 526 Functional Performance of Older Adults
- HSC 531 Principles of Management for Health Sciences
- HSC 532 Advocacy and Environmental Change
- HSC 541 Environmental Health
- HSC 543 Legal and Policy Issues in Health Sciences
- HSC 544 Social Issues and Health Sciences
- HSC 545 Work Physiology
- HSC 546 Occupational Biomechanics
- HSC 547 Assistive Technology for Computer Access
- HSC 548 Human Sexuality and Health Care
- HSC 570 Special Topics in Health Sciences
- HSC 690 Independent Study

**Electives** (*nine credits*) Students select three additional courses from HSC and/ or from other departments.

The following is a partial list of courses that may be taken as electives from other departments:

- EDB 628 Psychology of Learning and Instruction (three credits)
- ESE 503 Introduction to Individuals with Moderate and Severe Disabilities (four credits)
- ESE 519 Life Skills Assessment, Curriculum, and Instruction (four credits)
- HED 550 Theories in Health Education and Health Behavior (four credits)
- <u>HED 551</u> Organization and Administration of Community Health Education
- Programs (four credits)
- <u>HED 561</u> Methods and Materials for Health Education (three credits)
- HED 565 Analyzing Health Data for Grant Writing (three credits)
- HED 570 Pathophysiology of Disease (four credits)
- HCA 510 Administrative Uses of Epidemiology (3-0-3)
- HCA 515 Medical Care Organization (3-0-3)
- HCA 615 Quality of Care (3-0-3)
- IME 505 Human Factors Engineering (3-0-3)

<u>PED 677</u> Prevention and Rehabilitation of Cardiovascular Disease (three credits)

PHL 540 Moral Reasoning and Bioethics (4-0-4)

PHL 541 Clinical Issues in Bioethics (4-0-4)

<u>PSY 593</u> Special Topics in Psychology: The Psychology of Performance (two to four credits)

PSY 651 Clinical Psychoparmacology (4-0-4)

SWK 695 Health Care: Planning and Policy Issues (3-0-3)

SOC 543 Medical Sociology (4-0-4)

Students may also complete a graduate certificate (Culture, Communication, and Health Care; Ergonomics/Human Factors; Gerontological Studies; Bioethics; or Occupational and Physical Therapy in the Schools) to satisfy the elective requirement.

# **Capstone Experience** (three to six credits)

Either a thesis or non-thesis option. Every student must complete a significant, original research project.

HSC 691 Thesis *or* HSC 692 Master's Project

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#### **ON-LINE GRADUATE PROGRAM**

For practicing health care professionals, an on-line version of the Master of Science in Health Sciences is available.

# The Program of Study

The curriculum consists of five core courses, three courses in the area of emphasis, three elective courses, and an individual research project. Only one 10-day seminar requires the student to be on campus. Thirty-six semester hours are required.

# **Core Courses**

HSC 501 Issues in Health Sciences

HSC 502 Leadership Roles in Health Sciences

HSC 503 Research and Analysis in Health Sciences

HSC 504 Seminar in Health Sciences Professions

HSC 505 Culture and Health Care

## **Area of Emphasis** (Health Sciences Professional Practice)

HSC 510 Principles of Evidence-Based Practice

HSC 512 Evolving Technologies in Health Sciences

HSC 513 Outcomes Assessment

#### **Electives**

Students select three courses from additional offerings to meet individual professional needs. Courses may be from the Health Sciences curriculum or approved courses from other disciplines.

## **Capstone Experience**

An individual research project (three credit hours) completed under the supervision of a faculty advisor is required. Students may transfer up to nine hours of appropriate graduate course work taken at another institution toward fulfillment of degree requirements.

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#### **GRADUATE CERTIFICATE PROGRAMS**

Three interdisciplinary graduate certificate programs are administered through the Department of Health Sciences: Ergonomics/Human Factors; Occupational and Physical Therapy in the Schools; and, Culture, Communication, and Health Care. Detailed information about these programs can be found elsewhere in this Catalog; please refer to the index. Return to top

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## Master of Science in Nursing

## **Department of Nursing**

Rhodes Tower 915 (216) 687-3598 www.ims.csuohio.edu/Nursing/MSNProgram.html

#### THE FACULTY

**Professor:** Assistant Professors: Adjunct Professors:

Noreen Frisch, Chair Laura DeHelian Carol Blixen

Andrea Jennings- Linda Lewicki
Associate Professors: Sanders Lorrain Mion
Coorga Virkwood Sheila Nilos

George Kirkwood Sheila Niles

Valerie George,
Program Director
Amy Govoni
Cheryl McCahon
Sharon Radzyminski Mary Lou Stricklin
Cindy Struck

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#### INTRODUCTION

June Hart Romeo

The M.S.N. program in Population Health is designed to prepare graduates

with advanced knowledge, competencies, and skills in the nursing care of populations (aggregates). The graduate will have in-depth skills in population assessment, demography, epidemiological assessment and data analysis, evaluation research, survey research, data projections, cost-benefit analysis, and the ability to apply nursing theory, population theory, ethics, cultural awareness, and political strategies to design, implement, and evaluate population health programs. In keeping with the rules and regulations of the Ohio Nurse Practice Act, the program does not prepare nurse practitioners or clinical nurse specialists; graduates are not eligible to apply for a certificate of authority in the State of Ohio.

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#### **FACULTY RESEARCH**

Program faculty have research specializations in epidemiology, population health issues, diabetes, osteoporosis, culture and health, gerontology, mental health, nursing theory, nursing diagnosis, and decision-making in nurse practitioners. In addition, the Center for Nursing Research provides resources to faculty and students, including a forum for interdisciplinary research, assistance with proposal development, and identification of funding sources. The departmental partnership with the Visiting Nurses Association of Cleveland also provides opportunities for collaboration with practitioners in community settings.

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#### FINANCIAL ASSISTANCE

Graduate assistantships (minimum of nine credit hours per semester) are available on a competitive basis to full-time students who apply and are eligible. Assistantships cover tuition and provide stipend support. Assistants may be involved in three types of graduate assistantships: teaching, research, and administrative. Each type of assistantship is designed to meet the needs of the University and to assist in the professional development of students. Graduate nursing students also are eligible to apply for the Florence N. Gray Graduate Assistantship, a funded assistantship that includes a tuition waiver and a 10-hour-per-week work commitment as an assistant in the Department of Nursing. Application deadline is February 28. Scholarships also are available on a competitive basis for part-time students. Contact the Director of the M.S. N. Program at (216) 687-3598, or see the Expenses and Financial Aid section of this Catalog for additional information.

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#### **CAREER INFORMATION**

The focus in population health prepares graduates to practice in the evolving health care delivery system. Currently, managed care puts all decisions in the context of population-based data. Nursing activitiesadesigned and implemented according to care maps and critical pathwaysaare grounded in aggregate data analysis. Quality assurance departments, the Department of Veterans Affairs Medical System, and many HMOs require nurses with the skills attained in a graduate program with a population health focus. Graduates are prepared to function collaboratively in community-based settings, to manage health care of population groups, and to work with populations to plan programs to address health concerns of the community. The program enables graduates to practice with populations across care settings, to assume leadership roles in the health care delivery system, and to pursue doctoral education.

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## **ADMISSION REQUIREMENTS**

## **Non-Degree Status**

A total of seven credits of 500-level graduate nursing courses may be taken as a non-degree graduate student. No nursing course may be taken beyond this limit. Students who wish to progress in nursing must complete the application process for admission to the Graduate College and to the M.S.N. program.

#### **Admission Requirements**

Applicants to the Master of Science in Nursing program must meet the minimum requirements established by the College of Graduate Studies and the M.S.N. program faculty. Two letters of recommendation are required, preferably from individuals who can address the applicant's ability to be successful in graduate study. The general requirements for admission are:

- 1. A baccalaureate degree in nursing.
- 2. An undergraduate grade-point average of 3.00 or above.
- 3. Performance at the 50th percentile or above on either the Graduate Record Exam (GRE) or Miller Analogies Test (MAT).
- 4. A statistics course (undergraduate or graduate) within five years of application/admission.
- 5. A three-to-five page typed essay explaining why the applicant wants an M.S.N. in population health nursing; how such a graduate degree fulfills

- the applicant's personal and professional goals; and the knowledge, skills, attitudes, and competencies that the applicant hopes to develop during the educational process.
- 6. A valid license as an RN in Ohio.
- 7. Identification of a population on which the student will focus during his or her program of study.
- 8. Submission of the Application for Graduate Admission and the \$30 application fee.
- 9. Completion of a Department of Nursing application to the M.S.N. program

Applicants who do not meet grade-point or test-score requirements may be considered on a probationary basis if:

- 1. The undergraduate grade-point average is below 3.00, but test scores are at the 50th percentile or above; *or*
- 2. Test scores are below the 50th percentile, but the undergraduate grade-point average is 3.00 or higher.

Students admitted on a probationary basis must take prescribed core courses in their first 12 credit hours and perform satisfactorily before being allowed to continue in the program.

Submit all materials to the Graduate Admissions Office. The office will forward materials to the M.S.N. Program Director. Applications for fall semester are reviewed by the Department of Nursing Graduate Committee beginning March 1. Applications received after that date are considered for fall semester on a space-available basis.

Students can pursue the program on a full- or part-time basis. The University mandates a six-year time limit to obtain a master's degree.

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#### PROGRAM OF STUDY

A minimum of 38 credit hours of study is required, including courses in advanced nursing knowledge, population health, a capstone project, and a cognate, or area of interest.

## **Advanced Nursing Knowledge Courses (13 credits)**

 $\underline{\text{NUR }500}$  Professional Role Development for Population Health Nursing I

NUR 501 Introduction to Population Health Nursing

NUR 502 Theory Development in Nursing

NUR 503 Nursing Research Methods I

NUR 601 Nursing Research Methods II

NUR 602 Health Care Policy

NUR 603 Health Care Financing for Nursing Practices

#### **Population Health (20 credits)**

NUR 505 Introduction to Epidemiology and Demography: A Nursing

Perspective

NUR 604 Nursing of Populations I

NUR 605 Nursing of Populations II

NUR 606 Practicum in Population Health Care

NUR 607 Professional Role Development for Population Health Nursing II

NUR 699 Thesis

#### **Cognate or Area of Concentration (elective: minimum of five credits)**

Students may choose courses from the following list (other options available with approval of advisor):

NUR 598 Independent Study

NUR 698 Independent Study

Bioethics Nursing

Education School Health Nursing

Gerontology Sociology Health Care Urban Affairs

Administration Health Sciences

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## ANNUAL DOCUMENTATION

Once accepted into the program each student is required to present, at the time of entrance and annually thereafter, documentation of licensure as a registered nurse, professional liability insurance, CPR certification, and current immunizations. This information is required by clinical sites as well as accrediting agencies. Students are responsible for their own transportation to clinical sites.

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#### CLINICAL PLACEMENT

Students admitted to Phase II of the M.S.N. in Population Health Program take two courses, <u>NUR 604</u> and <u>NUR 605</u>, which include a lecture and clinical component. In the clinical component, students develop competencies enacting the roles of the population health nurse expert with their population of focus in several different environments of care. During these learning experiences, students interact with members of their population, health care professionals, interest groups, and others who are involved with their population. These opportunities enable them to use the Precede-Proceed Model, nursing theory, and other concepts, theories, and frameworks to promote the health of aggregates. Students are encouraged to identify their population of interest soon after they enter the program to facilitate identification of clinical sites for optimal learning.

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## **EXIT REQUIREMENTS**

There is no thesis requirement for the M.S.N. in Population Health Nursing Program. Graduation is based on the successful completion of the required courses and clinical experiences. <u>NUR 606</u> Practicum in Population Health Care is the capstone course of the program. Students are expected to plan and implement a clinical project to address the needs of their population of focus. Students are expected to do an oral presentation of their projects and develop a manuscript for submission to a refereed journal.

Students may, however, elect to substitute a thesis for the practicum course as part of their program of study. The thesis option requires that the student plan and carry out a research project, or develop a scholarly essay. It is expected that students who select these options will develop and submit a paper for publication to a refereed journal and publicly present and defend the thesis.

Students completing a thesis should select a thesis advisor early in the program, preferably by the completion of Phase I courses (500-level courses). The advisor helps the student establish an Advisory Committee of faculty from the student's area of interest and an external member from a cognate area. After the committee has been established, the student must prepare a research proposal that must be approved by the Advisory Committee. The committee members also monitor the thesis.

Students should enroll for <u>NUR 699</u> each semester in which they are involved with their thesis.

See the Academic Regulations section of this Catalog for additional information on the Thesis option. Return to top [ CATALOG SITE MAP] [ SITE MAP-TEXT ONLY] [ GRADUATE CATALOG HOME]



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## occupational therapy





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## Master of Occupational Therapy

## **Department of Health Sciences**

Health Sciences 101 (216) 687-3567 www.csuohio.edu/healthsci/ot.html

#### THE FACULTY

#### **Professor:**

Bette Bonder, Interim Chair, Health Sciences Department James Landis

**Assistant Professor:** 

## Associate Professors:

John Bazyk Susan Bazyk Beth Ekelman Glenn Goodman, *Director*, Occupational Therapy Program **Adjunct Assistant Professor:** 

Susan Wayne, Fieldwork Coordinator

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#### INTRODUCTION

Occupational therapy, which began in 1917, is a health field that focuses on people's ability to do their everyday occupations in self-care, work, and leisure (such as dressing, homemaking, working, and recreating). Its goal is to help people achieve their own unique, desired lifestyles. It requires getting to know individuals personally, understanding their goals, and identifying creative ways to allow them to reach their desired levels of independence and productivity. This work is highly personal and creative. In addition to working directly with clients, occupational therapists often consult with others important to the client about adapting the client's lifestyle or environment. Occupational therapists also design programs for themselves or others to implement, they speak on behalf of clients and their families, and they participate in research.

The Occupational Therapy Program is accredited by the Accreditation Council for Occupational Therapy Education. Students who finish this entry-level professional program are eligible to take the national certification exam for occupational therapists registered (OTR).

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#### **FACULTY RESEARCH**

The Occupational Therapy Program faculty have an outstanding record of research and publications. Areas of expertise within the core faculty include outcome studies, assistive technology, gerontology, quality of life, legal issues in occupational therapy, occupational therapy education, psychopathology and function, international health care issues, work-related injuries, feeding interventions, parent-professional collaboration, fine motor function and emergent literacy, and development of occupational therapy assessments.

The program has collaborative arrangements with many health care and service organizations that enhance research and learning opportunities. Some of these include The Benjamin Rose Institute, The Cleveland Clinic Foundation, Cleveland Public Schools, the Cuyahoga County Board of Mental Retardation and Developmental Disabilities, the Hispanic Senior Center, the Mellen Center for Multiple Sclerosis, Metro Health Medical Center, St. Vincent Charity Hospital, and University Hospitals of Cleveland.

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#### FINANCIAL ASSISTANCE

A limited number of Graduate Assistantships (minimum of nine credit hours per semester) are available to full-time students. Assistantships may cover

tuition and a stipend. Assistants may be involved in departmental projects, or work with individual faculty on specific research and teaching endeavors. Contact the Health Sciences Department at (216) 687-3567 or via e-mail at healthsci@csuohio.edu for more details.

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#### ADMISSION INFORMATION

Admission to the program is limited to 40 students. A rolling admissions process begins August 1 until March 15. Candidates who meet all admission requirements are accepted on a first-come, first-served basis.

#### **Admission Criteria**

Students must have:

- 1. A bachelor's degree from an accredited institution.
- 2. An overall grade-point average of 3.00 or a score at the 50th percentile or above in each area of the GRE.
- 3. A minimum GPA of 2.80 in the most recent 48 semester credit hours of course work, and a minimum GPA of 2.80 in natural science courses, with at least two of the science prerequisites taken prior to application.

## **Procedures for Application**

Students must meet all Graduate College admission requirements and submit to the Graduate Admissions Office an Application for Graduate Admission (available at www.csuohio.edu/gradcollege/ and in the back of this Catalog), the \$30 application fee, and all admission materials (official transcripts, test scores submitted by the testing agency directly to the University, letters of recommendation, department application packet, etc.).

In addition, applicants for the M.O.T. program must:

- 1. Have earned a baccalaureate degree from an accredited college or university.
- 2. Submit a completed M.O.T. program packet (available from the Health Sciences Department).
- 3. Complete the Graduate Record Exam (GRE) if the overall undergraduate grade-point average is less than 3.00.
- 4. Complete the GRE Writing Assessment.
- 5. Complete the activity requirements:
  - a. Part A, Proficiency in crafts (woodworking, ceramics, macramÈ, weaving, block printing, knitting, crochet,

leatherwork, mosaic tile, among others) as shown by a certificate or other evidence of at least 10 contact hours in a class or seminar with at least two crafts within a five-year period.

- b. Part B, Documentation of participation in one other activity through work experience or a class in one of the following areas with at least 40 contact hours: studio arts, recreation and leisure, performing arts, computers and technology, or special experiences with individuals with disabilities.
- 6. Demonstrate English-language proficiency if English is not the applicant's native language. A TOEFL score of 550 or a Michigan Language Test score of at least 85 is required.
- 7. Complete all prerequisite courses with a grade of C or better by the end of spring semester of the year of application.

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## **REQUIRED PREREQUISITES**

a. Pathology (HSC 381 if taken at CSU)

Introduction to medical diagnosis and treatment covering basic concepts and nomenclature of pathology, major diseases of body systems, epidemiology, biopsychosocial concepts, pharmacology, infectious disease, cellular injury, tissue repair, neoplasia, genetic disorders, musculoskeletal disorders, nervous system disorders, and psychiatric disorders.

- b. Physiology with lab (HSC 422 or BIO 422/423 if taken at CSU) Must be a 300-level or above course. Human or vertebrate physiology is recommended.
- c. **Human Anatomy with lab (HSC 475 if taken at CSU).**Must be a 300-level or above course. Human cadaver dissection or prosection is recommended.
- d. Neurosciences with lab (HSC 476 if taken at CSU)
  Study of structure and function of human central and peripheral nervous systems including vascular components and special senses.
- e. **Lifespan (PSY 223 if taken at CSU)**Examination of human development from infancy to old age preferred.
- f. Abnormal Psychology (PSY 345 if taken at CSU)
  Survey of major psychological disorders and their classification,

etiology, and management

#### g. Social Science Statistics (PSY 311 if taken at CSU)

Content should include measures of central tendency, correlations, ttests, analysis of variance, non-parametric statistics, application of descriptive and inferential statistics to analysis and interpretation of data in the social sciences, and hypothesis testing.

## h. Medical Terminology (HSC 203 if taken at CSU)

Evidence of completion of medical terminology course or self-study.

Although not mandatory, it is strongly recommended that applicants volunteer and/or work under the direct supervision of an occupational therapist in at least two areas of practice.

Requests for applications and advising appointments (also recommended) can be made with the Health Sciences Department by calling (216) 687-3567.

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#### PROGRAM OF STUDY

The Master of Occupational Therapy curriculum consists of 80 to 82 credits, including 52 credits in the core area, 22 credits of fieldwork, and six to eight credits of electives. A capstone research project is required as part of the core curriculum. The two-year program begins summer semester. A part-time option is available for students who wish to complete the program in three or four years.

The courses are offered in the following sequence:

#### **Summer Year I**

HSC 506 Medical Conditions and Occupational Function

HSC 516 Occupational Therapy Foundations

**HSC** 560 Interdisciplinary Team Development, or Elective

HSC 589 Occupational Therapy Research I

#### Fall Year I

HSC 517 Occupational Therapy Theory and Process

HSC 518 Occupational Development

HSC 527 Neuromusculoskeletal Evaluation and Intervention

HSC 528 Psychosocial Evaluation and Intervention

#### **Spring Year I**

HSC 529 Sensory and Cognitive Evaluation and Intervention

<u>HSC 535</u> Occupation and Participation I <u>HSC 536</u> Occupation and Participation II

HSC 560 Interdisciplinary Team Development, or Elective

## **Summer Year II**

**HSC 537** Occupation and Participation III

HSC 558 Occupational Therapy Practicum I

HSC 568 Interdisciplinary Team Care, or Elective

**HSC 569** Occupational Environments

#### Fall Year II

HSC 559 Occupational Therapy Practicum II

HSC 568 Interdisciplinary Team Care, or Elective

HSC 579 Occupational Therapy Administration and Management

HSC 591 Occupational Therapy Research II

## **Spring Year II**

HSC 595 Level II Fieldwork

HSC 596 Level II Fieldwork

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## Master of Physical Therapy

## **Department of Health Sciences**

Health Sciences 101 (216) 687-3567 www.csuohio.edu/healthsci/mpt.html

#### THE FACULTY

#### **Professor:**

Bette Bonder, Interim Chair, Ros. Health Sciences Department Ann

**Associate Professors:** 

Vanina dal Bello-Haas John J. Jeziorowski Mary K. Milidonis Marilyn B. Wagner, *Program Director*  **Assistant Professors:** 

Rosanne L. Higgins Ann R. Karas James A. Landis

**Adjunct Assistant Professor and Clinical Education Coordinator:** 

Karen A. O'Loughlin

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#### INTRODUCTION

The emphasis of the Master of Physical Therapy (M.P.T.) program at Cleveland State University is to develop competent entry-level practitioners who are well-prepared to meet the demands of the health care arena in the 21st century, especially the emerging leadership roles that are necessary in a rapidly changing health care environment. Graduates will be prepared to assume the diverse roles of the physical therapist, including clinical practice, consultation, teaching, management, participation in research, and advocacy. The ability to understand health systems through interactions with practitioners from numerous disciplines is emphasized in all aspects of the curriculum. The Physical Therapy Program is accredited by the Commission on Accreditation in Physical Therapy Education.

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#### **FACULTY RESEARCH**

F Cleveland State University faculty have research specializations in biomechanics, culture and health, epidemiology, exercise physiology, gerontology, human sexuality, motor control, neuromuscular disorders, orthopaedics, and pediatrics. A state-of-the-art Motion Analysis Laboratory is availability for gait, vestibular, and sports research.

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#### PROGRAM OF STUDY

The curriculum for the Master of Physical Therapy consists of 88 semester credits, including:

- 55 credits in the core area (including a required research project designed to integrate core graduate course work and clinical experiences)
- 2. 27 credits of clinical experience (including a capstone clinical experience incorporating all preceding didactic and clinical content)
- 3. Six credits of elective course work

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#### ADMISSION INFORMATION

Admission to the program is selective and limited. Admissions are conducted once a year beginning in the summer and continuing through fall. The deadline for admission is November 1. In addition to meeting Graduate College

requirements for admission, applicants to the program must:

- 1. Hold an earned baccalaureate degree from an accredited college or university in any subject area.
- 2. Submit an Application for Graduate Admission (download at www. csuohio. edu/gradcollege/) and the \$30 application fee.
- 3. Submit a completed M.P.T. program packet (available from the Health Sciences Department).
- 4. Complete the Graduate Record Exam (GRE) if the overall undergraduate grade-point average is less than 3.00 on a 4.00 scale.
- 5. Complete the GRE Writing Assessment examination.
- 6. Demonstrate English-language proficiency if English is not the applicant's native language. The TOEFL or Michigan Test is required. Applicants must have a TOEFL score of at least 550 or a Michigan Test score of 85 or above.
- 7. Have minimum grade-point averages of 2.75 overall and 2.80 in prerequisite course work. All prerequisite courses must be completed with a letter grade of C or better. Pre-professional prerequisites for admission to the program are:
  - a. Chemistry: two-course sequence with laboratories
  - b. Physics: two-course sequence with laboratories
  - c. General biology with laboratory
  - d. Vertebrate, human, or mammalian physiology (junior- or senior-level)
  - e. Human gross anatomy with cadaver laboratory
  - f. Neuroscience with laboratory
  - g. General pathology
  - h. Psychology: two courses
  - i. Sociology: one course
  - i. Statistics: one course
  - k. Medical terminology (not calculated in prerequisite grade-point average)

Submit all materials to the Graduate Admissions Office. The Office will forward material to the M.P.T. Program Director.

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#### PROGRAM REQUIREMENTS

Students in the M.P.T. program must be enrolled full-time and complete six semesters, including all courses listed in the following sequence.

M.P.T. Curriculum, Table of Courses

#### **Spring Year I**

- HSC 538 Life Span Development
- HSC 542 Functional Anatomy for Physical Therapists
- HSC 550 Physical Therapy Theory and Practice I
- HSC 562 Physical Therapy Interactions I
- HSC 592 Physical Therapy Scientific Inquiry

#### Summer Year I

- HSC 552 Physical Therapy Theory and Practice II
- HSC 580 Physical Therapy Clinical Seminar I
- HSC 560 Interdisciplinary Team Development
- HSC 564 Physical Therapy Interactions II
- HSC 566 Physical Therapy Interactions III

#### Fall Year I

- HSC 554 Physical Therapy Theory and Practice III
- HSC 572 Physical Therapy Management of Complex Conditions I
- HSC 574 Physical Therapy Management of Complex Conditions II
- HSC 582 Physical Therapy Clinical Seminar II
- **HSC 598** Special Topics in Physical Therapy Research

## **Spring Year II**

HSC 586 Applied Physical Therapy I

#### **Summer Year II**

- HSC 556 Physical Therapy Theory and Practice IV
- HSC 576 Physical Therapy Management of Complex Conditions III
- **HSC 584** Physical Therapy Clinical Seminar III
- HSC 590 Physical Therapy Organization, Administration, and Management
- HSC 598 Special Topics in Physical Therapy Research
- **HSC 568** Interdisciplinary Team Care\*

#### Fall Year II

- HSC 588 Applied Physical Therapy II
- HSC 568 Interdisciplinary Team Care\*
- **HSC 598** Special Topics in Physical Therapy Research

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<sup>\*</sup>Students may elect to take this course in either of the two terms

<sup>\*\*</sup> Students must complete two elective courses during the M.P.T. program

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## Master of Science in Physics

## **Department of Physics**

Science Building 112 (216) 687-2425 www.csuohio.edu/physics/Grad/Grad.html

#### THE FACULTY

**Professors:** Assistant Professor:

Miron Kaufman, Chair

James A. Lock

Jearl Walker Adjunct Faculty:

**Associate Professors:** Qin-sheng Chen, The Cleveland Clinic Foundation

Christopher Deibel, The Cleveland Clinic

Paul D. Hambourger Foundation

Ronald M. Haybron Robert H. Klein Thomas W. Taylor

G. Theodore Wood

Kenneth Flurchick, *Ohio Supercomputer Center*Gennady Neyman, *The Cleveland Clinic Foundation*Martin Weinhous, *The Cleveland Clinic Foundation* 

Douglas Wilkinson, The Cleveland Clinic

**Foundation** 

Chun-Min Lo

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#### INTRODUCTION

Currently there is tremendous growth in optics, condensed matter, and medical physics caused by rapid developments in the fields of superconductivity, electro-optic materials, optical, acoustical, and NMR imaging, semiconductor devices, tomography, holography, and image processing. The Physics Department of Cleveland State University offers an M.S. degree in physics with emphasis on optics and condensed matter physics or on medical physics designed for applied scientists and engineers who wish to develop competence in these rapidly advancing fields. In 2001, the American Physical Society classified the Master of Science in Physics program at Cleveland State as a "strong professional master's degree program."

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#### **CURRENT RESEARCH**

#### **Experimental Biological Physics**

Development and application of an electric cell-based biosensor to study cell behavior in tissue culture, including the dynamics of cell attachment and spreading, the barrier function of endothelial and epithelial layers, in vitro toxicology, and the metastatic potential of cells.

## **Experimental Solid State Physics**

Current topics in the electronic properties and possible applications of novel materials include intercalated graphite fibers, conductor-insulator composites, and thin-film materials. Most measurements involve low-temperature and/or high-pressure techniques.

#### **Experimental Optics**

Laser spectroscopy is being used to study diffusional processes. Presently, aggregation processes that result in the formation of fractal aggregates and phase transitions in liquid mixtures and microemul-sions are under investigation. The optical properties of various polymer materials also are being studied using laser techniques.

## **Optoelectronics**

Investigation of basic physics and applications of transparent electronic materials.

## **Theoretical Optics**

Mie scattering calculations are presently being undertaken on artificially

produced and natural aerosols for the purpose of understanding a number of atmospheric and basic scattering phenomena. The structure of optical caustics produced by liquid droplet lenses also is being investigated both experimentally and theoretically.

## **Statistical Physics**

Phase transitions in liquid mixtures, polymers, superconductors, and magnets are studied by applying modern techniques such as the renormalization group. Statistical physics methods are applied to cognitive science and polymer processing.

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#### ADMISSION INFORMATION

To be considered for admission to the master's program in physics, students must meet Graduate College requirements for admission and have a B.S. degree in physics, mathematics, engineering, or an allied field. Students with deficient backgrounds will be required to register for additional courses to remove deficiencies.

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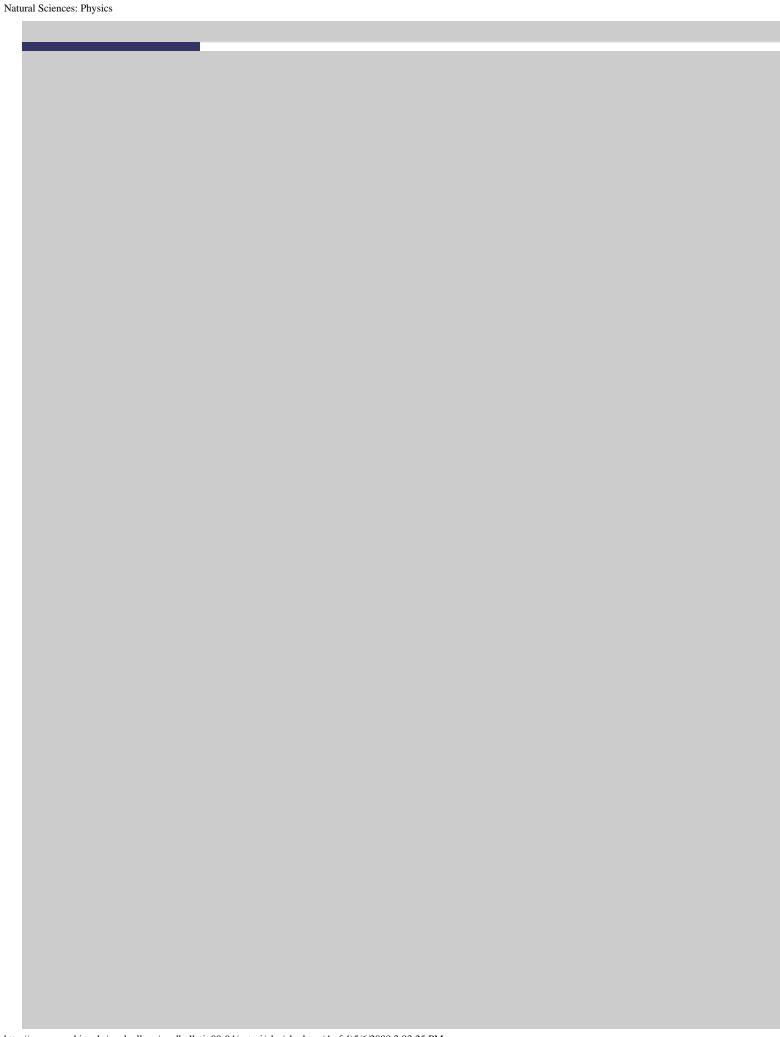
## **DEGREE REQUIREMENTS**

A minimum of 32 credit hours approved by the Physics Graduate Committee is required for graduation. The following courses constitute a typical program with emphasis on optics and materials: PHY 520, PHY 550, PHY 555, PHY 560, PHY 565, PHY 570, PHY 580, and PHY 598.

The medical physics emphasis program includes the following: <u>PHY 520</u>, <u>PHY 530</u>, <u>PHY 535</u>, <u>PHY 565</u>, <u>PHY 570</u>, <u>PHY 593</u> (Introduction to Biological Physics), and <u>PHY 598</u> (two semesters). The medical physics emphasis also requires knowledge of electronics laboratory and anatomy.

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## **Doctor of Philosophy in Regulatory Biology**

- A joint program with the The Cleveland Clinic Foundation

## Master of Science in Biology

Department of Biological, Geological, and Environmental Sciences

Science and Research 219 (216) 687-2440

bgesweb.artscipub.csuohio.edu/programs

#### THE FACULTY

Professors:	Associate Professors:	The Cleveland	
		Clinic Foundation	
Peter C. Baker, <i>Emeritus</i>	Abdolali Babaei	Faculty:	
Lorry J. Brenner, <i>Emeritus</i>	Robert E. Bast		
Wentworth B. Clapham	Randall J. Gee	Martha K. Cathcart	
Ronald L. Clise, <i>Emeritus</i>	A. Ralph Gibson	Clemencia	
R. Jeffrey Dean	Madeline M. Hall	Colmenares	
Frank DeMarinis, <i>Emeritus</i>	Sally Lewis, Emerita	Paul E. DiCorleto	
F. Paul Doerder	Barbara K. Modney	L. Allen Ehrhart	
Michael A. Gates, Chair	Jerome B. Senturia,	Paul L. Fox	
Cecilie A. Goodrich,	Emeritus	Stanley Hazen	
Emerita	B. Michael Walton	Philip H. Howe	
Kenneth M. Hoff, <i>Emeritus</i>	Crystal M. Weyman	Donald W. Jacobsen	
Donald G. Lindmark	James M. Willard, Emeritus	Andrew Larner	

Howard Lo Luigi Messineo, *Emeritus* Tobili Y. Sam-Yellowe Michael J.S. Tevesz Harry van Keulen George J. Wilder

#### **Assistant Professors:**

Joseph D. Fontes Tomasz Kordula Robert A. Krebs Tarun K. Mal Julie A. Wolin Cahir A. McDevitt Christine S. Moravec George R. Stark Dennis J. Stuehr Vincent Tuohy Qing Wang Thomas Weimbs Alan Wolfman

Adjunct Professors:

Ronald E. Blanton Jeffrey R. Johansen Scudder Mackey Hugh R. Quinn Robert Schmidt Carol A. Stepien Mark Tumeo

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#### **GRADUATE PROGRAMS IN BIOLOGY**

The Department of Biological, Geological, and Environmental Sciences (BGES) offers programs of course work and research leading to the Master of Science degree in Biology, the Master of Science degree in Environmental Science, and the Doctor of Philosophy in Regulatory Biology. These programs are open to both full-time and part-time students. Department faculty and staff members of The Lerner Research Institute of The Cleveland Clinic Foundation work in cooperation to offer graduate training in a broad range of biological sciences. For example, Cleveland State faculty participate in several programs focusing on local ecological and environmental issues that provide opportunities for graduate research; these include the Cuyahoga River Watershed Project, the Northeast Ohio Rivers Project, and the Great Lakes Environmental Genetics Laboratory at Cleveland State's Center for Environmental Science, Technology, and Policy. The program on Tropical Ecology and Conservation Biology, operated with the Cleveland MetroParks Zoo and the University of the Andes, facilitates field research on tropical forest ecosystems.

As a joint venture with the Cleveland Clinic's Lerner Research Institute, the doctoral program provides a unique opportunity for students to conduct research at one of the nation's top medical-research institutes. The Research

Institute is directly connected to the medical facilities of The Cleveland Clinic Foundation, enabling basic-research scientists to address clinically relevant research questions, collaborate with medical practitioners, and utilize clinical material for research. The Molecular Medicine Program is designed to capitalize on this resource.

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#### FACULTY RESEARCH AND CAREER INFORMATION

## **Faculty Research**

The BGES graduate faculty includes members of the Cleveland State faculty and staff members of The Lerner Research Institute of The Cleveland Clinic Foundation (CCF). Through this cooperation, a wide range of specialization is available. Details are available on the BGES web site.

Departmental facilities include a large animal-care facility, cold rooms, darkrooms, fluorescent and light microscopes, environmental chambers, a greenhouse, and an assortment of computers with Internet access. The department also utilizes the newly established DNA Sequencing Facility and space in field stations in the Cuyahoga Valley National Park, in the Caparo Forestry Reserve in Venezuela, and in Belize. Most Cleveland Clinic Foundation faculty are located in the new Research and Education Building of the Lerner Research Institute with its state-of-the-art facilities, including a vivarium and core facilities for biotechnology, transgenic mice, flow cytometry, microscopy, protein sequencing, and hybridoma work.

#### **Career Information**

Students completing graduate degrees in biology are employed in research and teaching positions in private industry, hospitals, governmental agencies, environmental action groups, and colleges and universities. Contact the Graduate Program Office of the Department of Biological, Geological, and Environmental Sciences for specific information.

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## **ADMISSION REQUIREMENTS**

Applicants must meet Graduate College admission requirements regarding grade-point average, Graduate Record Examination (GRE) scores, and TOEFL results. Applicants must request official transcripts from all undergraduate and

any previous graduate study, GRE scores (the General Test and the Biology or Biochemistry Subject Area scores), two letters of recommendation, and a statement of personal career goals and research interests. An applicant whose degree is from an institution in which English was not the language of instruction must also submit official results of the TOEFL or an equivalent test of English competency. (See the section on International Students in this Catalog.) Applicants must have a minimum of one semester of statistics or calculus, one semester of organic chemistry, one semester of physics, and a strong background in biology essentially equivalent to the Cleveland State undergraduate core curriculum. Questions should be directed to the BGES Graduate Program Director.

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#### GRADUATE ASSISTANTSHIPS/FELLOWSHIPS

Full-time graduate students pursuing thesis or dissertation research may be supported through teaching assistantships or fellowships by the department for a period that, as a rule, should not exceed three years for the M.S. or five years for the Ph.D. Full-time teaching assistants are expected to work 20 hours per week and must enroll as full-time students (currently nine credit hours, including research credits). Research assistantships may be available through the research grants of individual faculty. A limited number of tuition grants, which carry a service requirement of 10 hours of work per week, can be awarded to students with superior credentials as funds are available. Requests for assistantships should be indicated on the Application for Graduate Admission or by letter to the BGES Graduate Program Director. Awards are competitive based on all application materials. Initial decisions usually are made based on completed applications on hand in March for fall semester and, if assistantships are available, in November for spring semester. Required minimums for grade-point average, GRE scores, and TOEFL score are higher than those for admission to the program; non-native English speakers must pass the University's SPEAK test of verbal proficiency in order to hold a teaching assistantship. Return to top

#### CSU/CCF MOLECULAR MEDICINE PROGRAM

Depending on their research interests, applicants to the Ph.D. program may wish to consider participation in the Molecular Medicine Program, an interdisciplinary initiative linking the resources of the three CSU/CCF joint Ph. D. programs: Regulatory Biology, Clinical-Bioanalytical Chemistry, and Applied Biomedical Engineering. Together these units provide unparalleled opportunities for faculty, students, and staff. The Molecular Medicine Program is not an independent academic program and does not replace existing doctoral

programs. BGES students must fulfill the requirements for the Ph.D. in Regulatory Biology.

The Molecular Medicine Program forms a logical interface to coordinate collective efforts of existing programs in four ways: 1) by creating a significant presence in the challenging and exciting new area of Molecular Medicine; 2) by establishing a critical mass of researchers around a topic of national scientific and applied medical interest; 3) by realizing the commitment of Cleveland State and CCF in their long-standing collaboration to become a major contributor in biomedical engineering and biomedical technology; and 4) by expanding the existing doctoral programs beyond their present state of development. As part of its contribution to these efforts, the Molecular Medicine Program makes available several graduate assistantships to allow outstanding candidates to concentrate on their research for two years. Additional details can be obtained from the BGES Graduate Program Director or from the Director of the Molecular Medicine Program.

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## **COMMON DEGREE REQUIREMENTS**

All M.S. and Ph.D. students are required to enroll in the BGES Graduate Orientation course and to attend departmental seminars. Before registering for courses, all newly admitted students must meet with the BGES Graduate Program Director. Students also must comply with all Graduate College requirements and procedures.

Minimum grade-point averages exist for particular degree options as described below. A student receiving two grades of B- or one grade of C or below is subject to review by the BGES Graduate Committee; dismissal from the Biology graduate program may be recommended. Complete, current program requirements and any changes are described in the BGES Graduate Program Handbook available from the BGES Graduate Program Office.

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#### DOCTOR OF PHILOSOPHY DEGREE IN REGULATORY BIOLOGY

The Ph.D. program provides a comprehensive background in biological science with a focus on regulation in biological systems ranging from the molecular to the ecosystem level. The program is offered jointly by Cleveland State and The Cleveland Clinic Foundation. Besides course work, a comprehensive exam, and teaching experience, the degree requires a written dissertation based on

original scientific research of sufficient quality for publication in a peerreviewed scientific journal.

#### Requirements

- 1. Selection of a Major Advisor and an Advisory Committee. The Major Advisor typically is the primary supervisor and source of support for the student's dissertation research. Together, the Major Advisor and Advisory Committee supervise the student's plan of study and research proposal, monitor the student's progress, certify that requirements have been met in a timely fashion, and process all petitions, progress reports, and other communications with the BGES Graduate Committee.
- 2. Completion of a minimum of 90 credit hours with a minimum gradepoint average of 3.00 - distributed as follows:
  - a. Total course work and research

Courses (minimum) 32 credits Research (minimum) 40 credits Additional courses or research 18 credits **Total minimum 90 credits** 

- b. **Required courses:** Each Ph.D. student must complete <u>BIO 700</u> and <u>BIO 702</u> (Graduate Orientation), <u>BIO 704</u> (Biological Chemistry), <u>BIO 740</u> (Biostatistics) or an equivalent statistics course, <u>BIO 784</u> (Writing and Editing Grant Proposals), and an appropriate techniques course, such as <u>BIO 710</u> and <u>BIO 711</u> (Practice and Theory of Light Microscopy and laboratory) or <u>BIO 735</u> (Techniques in Molecular Biology).
- c. **Core work areas:** Each Ph.D. student must complete a minimum of six credit hours of course work in each of the following two areas:

Molecular/Cellular Biology Organismal/Evolutionary Biology

- d. **Seminars:** Each Ph.D. student must complete at least four seminar courses (BIO 888).
- e. **Remaining courses:** Each Ph.D. student formulates an individual plan of study in consultation with the Major Advisor and the Advisory Committee. This includes areas of course-work concentration as well as any additional elective courses needed to fulfill degree requirements described above.
- f. **Research:** The student's individual research project should be of

sufficient quality to be published in a refereed scientific journal.

- 3. Satisfactory fulfillment of a teaching requirement consisting of the following:
  - a. Two one-hour lectures under the supervision of a professor in (preferably) one introductory and one advanced course.
  - b. Service as a teaching assistant is not required, but such service in one lower-division and one upper-division laboratory is strongly recommended for students pursuing an academic career.
- 4. Admission to candidacy. Satisfactory completion of the Doctoral Candidacy Examination admits the student to candidacy for the Ph.D. This oral examination takes as its point of departure an original research grant proposal written by the student in the general area of the student's research. The intent of the examination is to provide a fair appraisal of the student's general knowledge and understanding of biology and indepth knowledge of the areas relevant to the student's doctoral research and cognate areas indicated by the student's course work and plan of study. Additional study or course work may be required as a result of this examination. Two unsuccessful attempts to pass this examination shall result in dismissal from the program.
- 5. Completion of at least one year (i.e., three consecutive terms) in residence as a full-time student (as defined by the University) after admission to candidacy. Degree candidates must be continuously enrolled for a minimum of one credit hour from admission to candidacy until graduation.
- 6. Exit requirements:
  - a. Presentation of the dissertation research at a departmental seminar.
  - b. Defense of the dissertation before a faculty committee. Two unsuccessful attempts to defend the dissertation shall result in dismissal from the program.
  - c. Submission of the approved dissertation together with an article based on the dissertation, in a format suitable for submission to a refereed scientific journal.

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#### MASTER OF SCIENCE DEGREE IN BIOLOGY

The Master of Science degree may be earned through either a thesis or a non-

thesis program. A student will be admitted to candidacy when the following requirements are met:

- 1. Deficiencies in undergraduate preparation are corrected.
- 2. Eight graduate hours of course work are completed with a grade-point average of 3.00 or better.
- 3. The plan of study and, for the thesis option, the research proposal are approved by the Advisory Committee and accepted by the Graduate Committee.

## **Thesis Option**

Besides course work, the degree requires a thesis based on original scientific research of sufficient quality for publication in a peer-reviewed scientific journal.

## Requirements

- 1. Selection of a Major Advisor and an Advisory Committee. The Major Advisor typically is the primary supervisor and source of support for the student's thesis research. Together, the Major Advisor and Advisory Committee supervise the student's plan of study and research proposal, monitor the student's progress, certify that requirements have been met in a timely fashion, and process all petitions, progress reports, and other communications with the Graduate Committee.
- 2. Completion of a minimum of 32 credit hours with a minimum grade-point average of 3.00 distributed as follows:
  - a. Total course work and research

Courses (minimum) 23 credits
Research (minimum) 8 credits
Additional courses or research 1 credits
Total minimum\* 32 credits

\*Graduate College regulations specify that all BIO courses must be 500-level or above; not more than seven credit hours of 400level courses in related areas, and which are not offered by the BGES Department, may be included if approved by the Advisory Committee and the BGES Graduate Committee.

- b. **Required courses:** Each student must complete <u>BIO 500</u> and <u>BIO 502</u> (Graduate Orientation), <u>BIO 504</u> (Biological Chemistry), and <u>BIO 540</u> (Biostatistics) or an equivalent statistics course.
- c. **Seminars:** Each M.S. student must complete at least three

seminar courses (BIO 688).

- d. **Remaining courses:** Each student formulates an individual plan of study in consultation with the Major Advisor and the Advisory Committee. This includes areas of course-work concentration as well as any additional elective courses needed to fulfill degree requirements described above.
- e. **Thesis research:** The student's individual research project should be of sufficient quality to be published in a refereed scientific journal.
- 3. Continuous enrollment for a minimum of one credit hour from admission to candidacy until graduation.
- 4. Exit Requirements:
  - a. Presentation of the thesis research at a departmental seminar.
  - b. Defense of the thesis before a faculty committee. Two unsuccessful attempts to defend the thesis shall result in dismissal from the program.
  - c. Submission of the approved thesis together with an article based on the thesis, in a format suitable for submission to a refereed scientific journal.

## **Non-Thesis Option**

Students in the non-thesis option may earn the M.S. degree in Biology by completing a minimum of 32 credit hours of course work and passing a comprehensive examination based on a Library Research Paper containing a critical review of original scientific literature on a topic chosen by the student. The Graduate Program Director serves as the Advisor.

## Requirements

- 1. Completion of a minimum of 32 credit hours with a minimum gradepoint average of 3.20 - distributed as follows:
  - a. Total course work\* 32 credits
    - \*May not include research credits (e.g., <u>BIO 691</u> or <u>BIO 695</u>) or BIO courses below the 500-level; not more than seven credit hours of 400-level courses in related areas may be included if approved by the advisor and the BGES Graduate Committee.
  - b. **Required courses:** Each M.S. student must complete <u>BIO 500</u> (Graduate Orientation), <u>BIO 504</u> (Biological Chemistry), and a course in statistics if not previously taken.

- c. Seminars: Each M.S. student must complete at least three seminar courses (BIO 688).
- d. **Remaining courses:** Each M.S. student formulates an individual plan of study in consultation with the Graduate Program Director. This includes areas of course-work concentration as well as any additional elective courses needed to fulfill degree requirements described above.
- 2. **Exit requirements**: Selection of an Examining Committee to supervise the Library Research Paper. Successful completion of the comprehensive examination (BIO 690) by presenting and defending the Library Research Paper before the Examining Committee. Two unsuccessful attempts to pass the comprehensive examination shall result in dismissal from the program.

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Aloysius Hepp

## **Doctor of Philosophy in Clinical-Bioanalytical Chemistry**

- A joint program with the The Cleveland Clinic Foundation

## **Master of Science in Chemistry**

## **Department of Chemistry**

Science and Research 397 (216) 687-2451 www.csuohio.edu/chemistry

## THE FACULTY

Kerro Knox, Emeritus

**Professors: The Cleveland Clinic** Research **Foundation Faculty: Professor:** A. Harry Andrist, John Shainoff **Emeritus** Alexandru Almasan David W. Ball Sipra Banerjee **Charles Bevins** Roger W. Binkley, **Clinical Professors: Emeritus Graham Casey** Martha Cathcart Frank J. Bockhoff. Manjula S. Gupta Guy Chisolm **Emeritus** Michael Ip Stan A. Duraj, John Crabb Frederick Van Lente Chairperson Paul DiCorleto Baochuan Guo Joseph DiDonato **Adjunct Faculty:** Donna Driscoll Julius Kerkay, Emeritus

Serpil Erzurum

John Masnovi Lily M. Ng Michael J. Tevesz Robert L.R. Towns. **Emeritus** 

Bruce F. Turnbull,

**Emeritus** 

## **Associate Professors:**

David J. Anderson Thomas W. Flechtner Ralph A. Gardner,

**Emeritus** 

Michael Kalafatis Robert Megargle,

**Emeritus** 

Earl M. Mortensen,

**Emeritus** 

Paul Olynyk, *Emeritus* 

Robert Wei Yan Xu

Paul Fox

Ram Ganapathi S. Jakarul Haque Stanley Hazen

Soraya Naghshineh

Joseph Reed-Mundell

John Peyser

Alan Riga

John Schupp

Satya Yadav

James Phillips

Henry Hoff Mie-Jae Im Donald Jacobsen

Sadashiva Karnik

Michael Kinter Andrew Larner

Xiaoxia Li

Alan Marmorstein

Kunio Misono Richard Morton Richard Padgett **Edward Plow** 

Jun Oin

Robert Silverman

George Stark Dennis Stuehr Bruce Trapp

**Bryan Williams** 

Yan Xu Vivien Yee

## **Assistant Professors:**

Mekki Bayachou Valentin Gogonea John F. Turner II Aimin Zhou

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#### INTRODUCTION

The Ph.D. program in Clinical/Bioanalytical Chemistry is offered jointly by Cleveland State University and the Lerner Institute of the Cleveland Clinic Foundation (CCF). This unique program attracts students from all over the world. Clinical/Bioanalytical Chemistry applies the knowledge of chemistry and, in particular, chemical analysis to the study of the origins and diagnoses of diseases. Graduates of this Ph.D. program are employed in many clinicalbioanalytical settings. They become directors of clinical laboratories and research scientists in biomedical and biotechnology fields, in in vitro diagnostics, in reference and analytical laboratories, in academic institutions, and in many other settings. Because of the concentration of chemical, medical, and related industries and institutions in the Cleveland area, many graduates of this program have found fulfilling positions locally. Others have selected

employment outside of the Cleveland area, including employment outside of the United States. Chemists with advanced degrees generally have a variety of career opportunities and Cleveland State graduates are no exception.

The program has outstanding faculty with whom students conduct their dissertation research. Students have access to state-of-the-art facilities at Cleveland State, The Cleveland Clinic Foundation, and at other medical centers. The program has more than 50 faculty members who have a broad range of research interests in disease mechanism and diagnosis, bioanalytical chemistry, biomedicine, and molecular biology. Advanced bioanalytical technologies are available to the program, including (but are not limited to) mass spectrometry (including MALDI-TOF and ESI-MS-MS), HPLC, conventional and capillary electrophoresis, immunoassays, ultracentrifugation, NMR, EPR, FTIR, absorption spectroscopy, spectrofluorometry, X-ray crystallography, molecular biology techniques, and molecular modeling and chemical imaging techniques.

Clinical Chemistry Ph.D. Program: The Clinical Chemistry Ph.D. program is an internationally recognized program that examines the origins, mechanisms, and diagnosis of disease. Students who complete the program may obtain certification from the American Board of Clinical Chemistry after appropriate work experience and upon successful completion of the certification examination. This program is one of two doctoral programs in the United State accredited by the Commission of Accreditation in Clinical Chemistry. The Clinical Chemistry Ph.D. also is an option within the Molecular Medicine Ph. D. Program (see below) for students in both programs.

Molecular Medicine Ph.D. Program: The Molecular Medicine Program (MMP) is a specialization within the three CSU-CCF doctoral programs in Regulatory Biology, Clinical/Bioanalytical Chemistry, and Applied Biomedical Engineering, and is administratively outside of the Chemistry Department. Depending on their research interests, applicants to the Clinical/Bioanalytical Ph.D. program can participate in the Molecular Medicine Program through the completion of the required core curriculum and participation in research in molecular medicine. For additional information, visit the MMP web site at www.csuohio.edu/mmp/index.htm.

M.S. Program in Chemistry: The Master of Science program in chemistry is designed for both full-time and part-time students. It provides advanced training for those who wish to further their careers in industry, laboratory medicine, or teaching, as well as students who feel the need for more study before pursuing a Ph.D. or M.D. degree. Graduate course offerings are scheduled in the evening so employed students can earn the degree on a part-time basis, taking one or two courses per semester. Graduate training at the M. S. level is offered in analytical, clinical, inorganic, organic, physical, and environmental chemistry. The clinical chemistry M.S. program includes practical training in the dynamics of operating modern, well-equipped medical laboratories. The M.S. program in chemistry offers both thesis and non-thesis

options, except in clinical chemistry, which is a course-work-only program

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#### STUDENT AND FACULTY RESEARCH

Ph.D. dissertation title examples:

- High-Performance Ion-Exchange Chromatography of Fibrinogen and Fibrinogen Degradation Products: Domain Binding Model;
   Development of Ionic Focusing HPLC: Improved Gradient Techniques
- Synthetic and Structural Studies of Selected Gallium, Indium, Vanadium, and Hafnium Coordination Compounds
- Analysis of DNA using MALDI-TOF Mass Spectrometry
- Fluorometric Detection of Biological S-Nitrosothiols
- Molecular Modeling Studies of Peptide and Protein Systems
- Development of Capillary Electrophoretic Enzyme Immunoassay and Enzyme Microassay

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## FINANCIAL ASSISTANCE

Graduate assistantships are available on a competitive basis. They include tuition support and a stipend during the academic year.

Students who are awarded teaching assistantships are required to teach classes; after two consecutive semesters of teaching, students holding teaching assistantships may be eligible for a summer term of financial support. International students who are awarded teaching assistantships must pass a University-administered test of spoken English before teaching duties may be assigned. International teaching assistants who do not pass this test may continue to hold their assistantships for a limited time while they continue to study the English language.

Research assistantships also are available depending on external funding.

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#### **CAREER INFORMATION**

Graduates of the Ph.D. program go on to a variety of professional positions in the clinical-bioanalytical field, some pursuing postdoctoral studies before obtaining their first professional position. Examples of positions held by Ph.D. graduates include:

- Director, SmithKline Beecham Reference Laboratory
- Vice President, Operations/Quality Assurance, Laboratory Corporation of America
- Research Scientist, Boehringer Mannheim
- Director St. Thomas Hospital Laboratory
- Postdoctoral Fellow, The Lerner Research Institute, The Cleveland Clinic Foundation
- Postdoctoral Fellow in Clinical Chemistry, Mayo Clinic Foundation
- Director, Lipid/Lipoprotein Laboratory, Mayo Clinic Foundation
- Group Leader, Lederle Pharmaceutical
- Associate Professor, Old Dominion University
- Associate Professor, Harvard Medical School
- Research Scientist, Amgen
- Associate Professor, Medical Technology, University of Wisconsin
- President, Medical Specialties, Inc.
- Associate Professor, Center for Macromolecular Crystallography, University of Alabama
- Postdoctoral Fellow, Genentech, Inc.
- President, Alpha Omega Chemical Co.
- Associate Director, Bioanalytical HPLC Department, Kansas City Analytical Services
- Vice President, Quality and Business Effectiveness, Quest Diagnostics

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#### ADMISSION INFORMATION

Students who wish to enter the Clinical/Bioanalytical Ph.D. program must first meet Graduate College and departmental requirements for admission to the general chemistry department graduate program as detailed below. In addition, admission to the Clinical/Bioanalytical Ph.D. program requires successful performance on the Ph.D. candidacy examination.

In addition to meeting the Graduate College requirements for admission, applicants for graduate study (master's and Ph.D.) in chemistry must have had one year of general, organic, analytical, and physical chemistry; a year of physics; and mathematics through partial derivatives and multiple integrals. Applicants lacking any of these requirements may be admitted, but any deficiency must be made up as soon as possible. Credits earned in remedial

courses do not count toward degree requirements.

Normally chemistry applicants are required to submit an official report of their performance on both the aptitude and chemistry subject area tests of the Graduate Record Examination (GRE) sent to the University by the Educational Testing Service (ETS). Applicants with outstanding records (grade-point average above 3.00 in addition to other evidence of solid preparation) may request that this requirement be waived by the Graduate Committee of the Chemistry Department. However, the GRE requirement cannot be waived for international students. International students who do not have a degree from an institution in the United States must also arrange to have the results of their performance on the TOEFL sent to the University by ETS.

The application deadline is January 15. Submit all materials to the Graduate Admissions Office, Rhodes Tower West, Room 204. (International applicants submit materials to the Center for International Services and Programs, University Center, Room 302.)

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## PLACEMENT EXAMINATIONS

All full-time students admitted into the chemistry graduate program are required to take four placement examinations: Physical Chemistry, Organic Chemistry, Analytical Chemistry, and Inorganic or Biochemistry. The purpose of these examinations is to evaluate a student's undergraduate preparation. If the results of these examinations indicate that a student has a deficiency in his or her undergraduate background, the student may be required to take appropriate course work to remedy that deficiency. This remedial course work is determined in a joint decision by the chair of the Chemistry Graduate Committee and the coordinator of the area of chemistry in which the student is deficient.

Part-time students admitted into the program are required to take the appropriate placement examination before registering for a graduate course. For non-degree students, the instructor of the graduate course decides whether the student needs to take the appropriate placement examination before being admitted into the course.

Students who do not have the required undergraduate background may be admitted provisionally and are required to follow the above guidelines for placement examinations.

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#### DOCTOR OF PHILOSOPHY PROGRAM

## Ph.D. Candidacy

Chemistry graduate students who have completed at least 20 credit hours of graduate study with a cumulative grade-point average of at least 3.00 may take the examination for Ph.D. candidacy. The examination consists of the preparation of an acceptable, written, fully referenced proposal describing the student's research plans and then an oral defense and examination. With successful performance in the candidacy examination, the student is qualified as a Ph.D. candidate in Clinical/Bioanalytical Chemistry.

## **Ph.D. Degree Completion Requirements**

Clinical/Bioanalytical Chemistry Ph.D. students are required to complete at least 22 credit hours of graduate courses (separate from Ph.D. Dissertation credits) with at least one course from each of three broadly defined areas of chemistry and at least two credit hours in Chemistry Seminar. Other courses and/or more than 22 credit hours of course work may be required by the student's adviser.

Graduate students also are required to register for the Ph.D. Candidacy Examination during the appropriate semester(s), for Ph.D. Dissertation when conducting research and to successfully write and defend their dissertations. The primary objective of Ph.D. candidacy is the completion of a major research project under the direction of the student's doctoral advisor(s). Once the project is completed, the student must write a dissertation describing the project (prepared in the format prescribed by the College of Graduate Studies and acceptable to the student's dissertation committee) and publicly defend the research and the written dissertation. The time required for the completion of the research and the defense of the resulting dissertation cannot be predicted in any individual case. Ph.D. students must complete at least 90 credit hours of graduate study before becoming eligible for graduation.

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#### MASTER OF SCIENCE PROGRAM

## M.S. Degree Completion Requirements

The formal course work for the M.S. degree is structured around a core of courses that includes 16 credit hours of advanced chemistry courses. The remaining credit requirements may be fulfilled with any combination of

elective courses suitable to a desired concentration and approved by the student's advisor. The combination of core and elective courses must total at least 32 credit hours.

M.S. students in the clinical chemistry program fulfill the departmental 32-credit-hour requirement by completing the sequence of courses specified by the program.

Part-time students employed as professional chemists usually complete the credit requirement by taking appropriate courses as arranged by their advisor.

**Full-time students in all areas (except clinical chemistry)** ordinarily complete their program by taking appropriate courses for a total of at least 16 credits (excluding credit for CHM 600 Chemistry Teaching) and then at least 16 credits in experimental research (CHM 699 M.S. Thesis) under the direction of a faculty advisor selected by the student. Upon completion of the research, each student is required to produce and defend a thesis accepted by a thesis committee. The committee consists of the student's advisor and at least two other graduate faculty members.

## **Exit Requirements**

M.S. students must either complete at least 32 credit hours of approved course work with a grade-point average of 3.00 or higher or complete at least 16 credit hours of approved course work with a GPA of 3.00 or higher, at least 16 credit hours of CHM 699 M.S. Thesis, and successfully defend a master's thesis. Ph. D. students must complete at least 90 credit hours of approved course work (including CHM 899 Ph.D. Dissertation) and successfully defend a doctoral dissertation.

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#### CLINICAL CHEMISTRY PROGRAM

It is the responsibility of the Director of the Clinical Chemistry Program to certify that clinical chemistry doctoral students have completed the necessary course and research requirements for professional certification. M.S. and Ph.D. Clinical Chemistry students take one year of clinical chemistry (two, four-credit courses), one year of advanced biochemistry (two, four-credit courses), one course in biotechnology techniques (four credits), one chemistry elective course (three credits), two seminar courses (one credit each) and a summer internship course in the clinical laboratory (11 credits). In addition, Ph.D. students take four courses of special topics in clinical chemistry (one credit each), four courses of clinical chemistry seminar (one credit each; includes case histories, clinical pathology conferences, and student presentations). A second summer internship in the clinical laboratory (11 credits) is optional.

Each internship course encompasses an eight-week rotation in a medical center clinical laboratory, where the student learns the principles and practice of clinical laboratory testing. The student also may work on developmental projects in the internship courses. The second summer internship course gives experience in specialized clinical laboratory techniques. Dissertation research also is required for the doctoral degree. All recipients of the Ph.D. degree in clinical chemistry are strongly urged to take, following graduation, the examination offered for certification by the American Board of Clinical Chemistry.

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## RESEARCH FACILITIES

The Chemistry Department is housed in the Basic Science Building and the Science and Research Center. In addition to well-equipped research laboratories, there are special function rooms, such as a cold room, glass and electronic shops, a computer room, and a darkroom. Generally, graduate students occupy research space near their research advisor, which leads to frequent interaction.

Major instrumentation available in the program includes superconducting multinuclear NMR, automated X-ray diffractometer, triple-quadruple GC/MS, MALDI-TOF and ESI-MS-MS mass spectrometers, capillary electrophoresis, HPLC, Fourier transform infrared spectrometers, UV-visible spectrophotometers, liquid scintillation counter, immunoassay instrumentation, fluorescence spectrometer, atomic absorption spectrometers, EPR, and extensive computer capabilities. Students also have ready access to the facilities and the state-of-the-art instrumentation available at The Cleveland Clinic Foundation. The **Cleveland Mass Spectrometry Facility** is located in the Department. It serves the research and service needs of Cleveland area institutions and industry. Opportunities for graduate training in mass spectrometry are afforded through the facility.

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Mark Tumeo

## Master of Science in Environmental Science

Part of the Environmental Academic Studies Program coordinated by the Cleveland State University Center for Environmental Science, Technology, and Policy

## Department of Biological, Geological, and Environmental Sciences

Science and Research 219 (216) 687-2440 bgesweb.artscipub.csuohio.edu/programs

#### THE FACULTY

Kenneth M. Hoff,

Donald G. Lindmark

**Emeritus** 

## **Professors:** Associate Professors: Assistant Professors:

Peter C. Baker, *Emeritus* Abdolali Babaei Joseph D. Fontes Lorry J. Brenner, Robert E. Bast Tomasz Kordula Randall J. Gee Robert A. Krebs **Emeritus** Wentworth B. Clapham A. Ralph Gibson Tarun K. Mal Julie A. Wolin Ronald L. Clise, Madeline M. Hall **Emeritus** Sally Lewis, Emerita **Adjunct Professors:** Barbara K. Modney R. Jeffrey Dean Frank DeMarinis, Jerome B. Senturia, Ronald E. Blanton Emeritus Emeritus Jeffrey R. Johansen F. Paul Doerder B. Michael Walton Scudder Mackey Michael A. Gates, Chair Crystal M. Weyman Hugh R. Quinn Cecilie A. Goodrich. James M. Willard, Robert Schmidt Emerita **Emeritus** Carol A. Stepien

Howard Lo
Luigi Messineo,
Emeritus
Tobili Y. Sam-Yellowe
Michael J.S. Tevesz
Harry van Keulen
George J. Wilder
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## INTRODUCTION

The Master of Science degree in Environmental Science is offered by the Department of Biological, Geological, and Environmental Sciences (BGES) as one of three interdisciplinary graduate programs coordinated by the Center for Environmental Science, Technology, and Policy (CESTP). The degree program prepares students for a wide range of professional careers that require knowledge of biology, chemistry, or geology in order to address environmental issues. The program is open to both full-time and part-time students.

The program is administered by the department's graduate faculty, which includes Cleveland State faculty, research scientists at The Lerner Research Institute of The Cleveland Clinic Foundation, and several adjunct faculty members at other local institutions.

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#### **FACULTY RESEARCH**

Faculty research in the environmental science area includes plant and animal ecology, species evolution, urban ecology and geology, remote sensing, local flora and fauna, microbiology, population genetics, ecological physiology, parasitology, modeling, pollution, waste management, and aquatic biology. The department is active in several cooperative projects that provide additional research opportunities for graduate study. The Cuyahoga River Watershed Project, supported by a group of local institutions including several colleges and universities and the Ohio EPA, is an interdisciplinary study of the ecology of an urban river. The Northeast Ohio Rivers Project sponsors a broad range of research into the ecological status of regional rivers. The Great Lakes Environmental Genetics Laboratory at Cleveland State's Center for Environmental Science, Technology, and Policy applies modern molecular methods to problems of basic and applied interest. The program on Tropical Ecology and Conservation Biology, operated together with the Cleveland MetroParks Zoo and the University of the Andes, provides opportunities for field research in tropical forest ecosystems in Venezuela and Belize.

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## **CAREER INFORMATION**

The M.S. degree program with its research thesis focus prepares students conceptually and technically for careers in applied or basic research in academic, government, or business settings. The graduate program attracts teachers, environmental scientists, and management and staff in diverse businesses with an environmental focus. The graduate program is open to full-time and part-time students as well as to Non-Degree students who are preparing themselves for entry into a degree program or are seeking to keep abreast of new developments in their field of interest.

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## **ADMISSION REQUIREMENTS**

Applicants must meet the Graduate College admission requirements with respect to grade-point average, Graduate Record Examination (GRE) scores, and TOEFL results. A bachelor's degree is preferred in a science appropriate to the student's area of concentration (biology, chemistry, or geology). Transcripts must be submitted for all undergraduate and any previous graduate study. Scores for the GRE General Test must be submitted by ETS, and two letters of recommendation and a statement of personal career goals and research interests must be submitted by the applicant. Scores on the GRE must average at the 50th percentile or above. Applicants must have a minimum of one year of calculus, one year of physics, one year of either biology, geology, or chemistry, and one term of a computer course or demonstrated proficiency in computer usage. Questions should be directed to the BGES Graduate Program Director. Submit application materials to the Graduate Admissions Office.

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#### GRADUATE ASSISTANTSHIPS/FELLOWSHIPS

Full-time graduate students pursuing thesis research may be supported by the department through teaching assistantships or fellowships for a period that, as a rule, should not exceed three years. Teaching assistants are required to work 20 hours per week and must enroll as full-time students (currently nine credit hours, including research credits). Research assistantships may be available

through the research grants of individual faculty. A limited number of tuition grants, which carry a service requirement of 10 hours of work per week, can be awarded to students with superior credentials as funds are available. Requests for assistantships should be indicated on the Application for Graduate Admission or by letter to the BGES Graduate Program Director. Awards are competitive and are based on all application materials. Initial decisions usually are made based on completed applications on hand in March for fall semester and, if assistantships are available, in November for spring semester. Required minimums for grade-point average and for GRE and TOEFL scores are higher than those used for admission to the program. Return to top

## **DEGREE REQUIREMENTS**

Besides course work, the M.S. in Environmental Science degree requires a thesis based on original scientific research of sufficient quality for publication in a peer-reviewed scientific journal.

Before registering for courses, all newly admitted students must meet with the BGES Graduate Program Director. All students are required to enroll in the BGES Graduate Orientation course (BIO 500) and to attend departmental seminars. Students also must comply with all Graduate College requirements and procedures.

A student is admitted to candidacy when the following requirements are met:

- 1. Deficiencies in undergraduate preparation are corrected.
- 2. Eight graduate hours of course work are completed with a grade-point average of 3.00 or better.
- 3. A plan of study and the research proposal are approved by the Advisory Committee and accepted by the Graduate Committee.

Students in the M.S. program in Environmental Sciences must maintain a minimum grade-point average of 3.00. A student receiving two grades of B- or one grade of C or below is subject to review by the BGES Graduate Committee; dismissal from the graduate program may be recommended.

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## THE PROGRAM

Following are specific requirements for the M.S. in Environmental Science degree. Complete, current program requirements and any changes are described in the *BGES Graduate Program Handbook* available from the BGES

Graduate Program Office.

- 1. Selection of a Major Advisor and an Advisory Committee. The Major Advisor typically is the primary supervisor and source of support for the student's thesis research. Together, the Major Advisor and Advisory Committee supervise the student's plan of study and research proposal, monitor the student's progress, certify that requirements have been met in a timely fashion, and process all petitions, progress reports, and other communications with the Graduate Committee. In keeping with the program's interdisciplinary focus, the Advisory Committee must include one member of the Cleveland State graduate faculty from outside BGES.
- 2. Completion of a minimum of 32 credit hours with a minimum grade-point average of 3.00 distributed as follows:
  - a. Total course work and research
     Courses (minimum) 22 credits
     Thesis research (minimum) 8 credits
     Additional courses or research 2 credits

Total minimum\* 32 credits

\*Graduate College regulations specify that all EVS or BIO courses must be 500-level or above; not more than seven credit hours of 400-level courses in related areas, which are not offered by the BGES Department, may be included if approved by the Advisory Committee and BGES Graduate Committee.

- b. **Required courses:** Each student must complete <u>BIO 500</u> (Graduate Orientation) and <u>BIO 540</u> (Biostatistics) or an equivalent graduate-level statistics course.
- c. **Required core competencies:** Technical writing (e.g., <u>ENG 509</u>), Law/Policy (e.g., LAW 671 Environmental Law or <u>UST 652</u> Environmental Policy), and Technology (e.g., CVE 450 Environmental Technology). Core competency requirements can be satisfied with the indicated Cleveland State courses or equivalent courses taken before or after entry into the program.
- d. **Seminars:** Each student must complete an Environmental Seminar (EVS 595).
- e. **Environmental Field Experience:** Each student must complete six credit hours of course work chosen to provide experience in field research. This requirement may be met by courses like <u>BIO 651</u> or <u>BIO 653</u> (Advanced Research in Field Biology) that emphasize field methods or by supervised individual research

(BIO 695) conducted in a field setting.

- f. Concentration area: Each student formulates an individual plan of study in consultation with the Major Advisor and the Advisory Committee. The student chooses one of three areas of concentration: Environmental Biology, Environmental Chemistry, or Environmental Earth Sciences. The plan of study must include at least nine credit hours of course work in the area of concentration as well as any additional elective courses needed to fulfill degree requirements described above.
- g. **Thesis research:** The student's individual research project should be of sufficient quality to be published in a refereed scientific journal.
- 3. Continuous enrollment for a minimum of one credit hour from admission to candidacy until graduation.
- 4. Exit Requirement:
  - a. Presentation of the thesis research at a departmental seminar.
  - b. Defense of the thesis before a faculty committee. Two unsuccessful attempts to defend the thesis shall result in dismissal from the program.
  - c. Submission of the approved thesis together with an article based on the thesis, in a format suitable for submission to a refereed scientific journal.

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## Master of Arts and Master of Science in Mathematics

## **Department of Mathematics**

Rhodes Tower 1515 (216) 687-4680 www.csuohio.edu/math/graduate.htm

#### THE FACULTY

#### **Professors:**

## **Associate Professors:**

Ching-Lung Chang Richard H. Black, Emeritus Shih-Hung Chang, Emeritus Leonard F. Bruening, Emeritus Pratibha G. Ghatage Paula C. Gnepp, *Emerita* Thomas W. Hungerford, David Herlacher. Emeritus Arthur L. Lieberman **Emeritus** Keith M. Kendig Shirley A. Lilge, *Emerita* Rasul A. Khan Frank W. Lozier, Emeritus Sundaresan Kondagunta Luiz Felipe Martins Gregory M. Lupton Benjamin H. McLemore, Emeritus

Gregory M. Lupton
Roger H. Marty
John F. Oprea
Brian M. Scott
Allan J. Silberger

Benjamin H. McLemore, *Emeritus*Stewart M. Robinson, *Emeritus*Ieda W. Rodrigues
Sally S.L. Shao
Chung-Yi Suen

Sherwood D. Silliman,

Chair

Chester W. Topp, *Emeritus* 

Bhushan L. Wadhwa

John J. Walsh

Assistant Professors:

John J. Holcomb, Jr. Naomi Klarreich Barbara Haas Margolius

## Carol Phillips-Bey

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#### INTRODUCTION

The Master of Arts program in Mathematics is designed for those teaching in secondary schools or who have completed their baccalaureate degree and are preparing for such teaching. Its goal is to provide secondary teachers with a broad background in modern mathematics in order to enhance their teaching effectiveness.

The Master of Science option is primarily a program in applied mathematics. It provides an alternative to the traditional M.S. degree in mathematics. The program is designed to serve those interested in the application of mathematics in industry, business, and government. The program stresses the development, analysis, and evaluation of mathematical models of real-world problems and those areas of pure and applied mathematics that are -germane to this process.

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#### **FACULTY RESEARCH**

Mathematics faculty members are active in many areas of research in pure and applied mathematics, including algebra, algebraic geometry, algebraic topology, applied mathematics (especially numerical analysis, ordinary and partial differential equations, and fluid dynamics), computer science, functional analysis, general topology, harmonic analysis, mathematics education, operator theory, probability theory, and statistics. Some department members are the authors of widely used mathematics textbooks, both graduate and undergraduate.

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## FINANCIAL ASSISTANCE

A limited number of graduate assistantships and tuition grants are available to qualified students. Assistantships include a stipend and tuition support. Contact the Department of Mathematics for an application. (See the section on Financial Aid and Expenses: Graduate Assistantships in this Catalog.)

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## **CAREER INFORMATION**

The demand for people trained in mathematics will continue to grow because of the central role of mathematics in the physical sciences, in engineering, and in business. Qualified secondary school teachers of mathematics are in demand, as are applied mathematicians to work in industry and government. There are opportunities in statistics, actuarial work, operations research, and computer science < fields that all require a solid background in mathematics.

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## **MASTER OF ARTS PROGRAM**

#### **Admission Information**

In addition to meeting Graduate College requirements for admission, applicants should have completed the current mathematics requirements for an Ohio secondary teaching certificate. Applicants who do not meet this requirement may be admitted with the approval of the Graduate Committee.

## **Degree Requirements**

The degree requirements, in addition to Graduate College requirements for the master's degree, consist of the completion of 32 credit hours distributed as follows:

## **Required Core**

(16 credits)

MTH 553 Algebra with Applications

MTH 580 Geometry from an Advanced Viewpoint

and two of the following:

MTH 542 Continuous Mathematical Models

MTH 547 Calculus from an Advanced Viewpoint

MTH 564 Statistics and Data Analysis

## **Electives**

(16 credits)

MTH 513 Linear Algebra with Geometry

MTH 518 Technology in Teaching

MTH 532 Probabilistic Models

MTH 539 Discrete Mathematics

MTH 542, MTH 547, or MTH 564 if not used to satisfy core requirements

MTH 581 Chaos and Fractals

MTH 593 Special Topics in Mathematics

Any other approved mathematics courses at or above the 500 level.

## **Exit Requirement**

During the course of their studies, students are expected to complete a written project under the supervision of a faculty member.

## **Scheduling of Courses**

The Master of Arts program is offered during summer sessions. Students may enter the program any summer term and complete the program in three summers. Alternatively, some approved elective courses may be taken during fall or spring terms.

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#### MASTER OF SCIENCE PROGRAM

## **Admission Information**

In addition to meeting Graduate College requirements for admission, applicants are expected to have a baccalaureate degree in mathematics, engineering, or another scientific or technical area. Applicants should have completed a sequence in calculus and analytic geometry as well as courses in linear algebra and differential equations and at least eight credits in junior- or senior-level mathematics courses. An applicant without this preparation may be admitted on a probationary basis, subject to removing deficiencies during the first year of graduate study.

## **Degree Requirements**

In addition to meeting Graduate College requirements for the master's degree, M.S. degree candidates must earn 32 credit hours distributed as follows:

## **Required Introductory Course** (four credits)

MTH 514 Linear Algebra and Functions of Several Variables

## **Sequence Courses** (16 credits)

Four courses (including one complete sequence) from the following:

MTH 525 - 626 Mathematical Methods in Engineering and Science

MTH 537 - 638 Operations Research

MTH 567 - 668 Probability and Statistics

MTH 577 - 678 Numerical Methods

## Electives(12 credits)

Approved mathematics courses at or above the 400 level with a maximum of four credits at the 400 level. Up to eight credits of approved courses at or above the 400 level offered by other departments.

## **Exit Requirement**

During the course of their studies, students are expected to complete a written project under the supervision of a faculty member.

## **Scheduling of Courses**

Courses in the Master of Science program are offered in the evening during the academic year only. Courses are scheduled as indicated below. Other courses also may be offered. It is highly recommended that students complete <a href="MTH"><u>MTH</u></a>
514 in their first year of study.

2002 - 2003	
Fall	Spring
MTH 514	MTH 593
MTH 537	MTH 638
MTH 577	MTH 678

2003-2004	
Fall	Spring
MTH 514	MTH 516
MTH 525	MTH 626
MTH 567	MTH 668

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## social and behavioral sciences: sociology





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## Master of Arts in Sociology

## **Department of Sociology**

Rhodes Tower 1721 (216) 687-4500 www.csuohio.edu/sociology/socgrad.html

#### THE FACULTY

#### **Professors:**

William C. Bailey Albert N. Cousins, *Emeritus* Butler A. Jones, *Emeritus* Sarah H. Matthews, Graduate Director Robert A. Kleidman William R. Morgan Hans R. Nagpaul, *Emeritus* Wornie Reed

## **Associate Professors:**

Henry M. Barlow, Emeritus **James Chriss** Mareyjoyce Green Teresa LaGrange Philip D. Manning Peter F. Meiksins, Chair

#### **Assistant Professors:**

Wendy Regoeczi Rongjun Sun

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## THE PROGRAM

The Master of Arts in Sociology program provides advanced instruction in the essential knowledge of the discipline and in the major social research skills, both qualitative and quantitative. This training can be applied in a variety of workplaces, including academic, business, government, and agency settings. Alternatively, the master's program can serve as preparation for doctoral studies.

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## FACULTY RESEARCH AND PUBLICATIONS

The faculty members of the Department of Sociology conduct applied and basic research on a variety of major contemporary social issues, including drug abuse, the aging population, urban education, doctor-patient interaction, social movement effectiveness, youthful offenders, comparative legal institutions, police decision making, job searches, therapeutic jurisprudence, homicide, and the social organization of work. In the past few years, faculty members have authored a half dozen books and several dozen journal articles. This research has been supported by several large federal and foundation research grants and a number of smaller state and local awards. Opportunities exist for student involvement in this work, particularly since most of it is conducted in the Cleveland area.

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## **ADMISSION REQUIREMENTS**

All applicants must meet Graduate College requirements for admission. Students whose cumulative undergraduate grade-point average is below 3.00 may be required to submit acceptable scores on the Graduate Record Examination. An applicant may hold a bachelor's degree in a field other than sociology, but there should be evidence of sociological preparation. In some cases, students may be granted probationary admission while course deficiencies are satisfied.

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## FINANCIAL ASSISTANCE

Graduate assistantships and tuition grants are available to qualified students. Interested students should contact the Sociology Graduate Program Director.

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## **DEGREE REQUIREMENTS**

In addition to meeting all University requirements, degree candidates must successfully complete a minimum of 32 credit hours, or eight courses. These must include three core courses, two graduate-level seminars, two electives, and a master's research paper.

- 1. Core courses (12 credits):
  - SOC 640 Sociological Theory
  - SOC 650 Sociological Research Methods
  - **SOC 651** Sociological Statistics
- 2. Two graduate-level seminars (eight credits) Two courses from  $\underline{SOC\ 661}$ ,  $\underline{SOC\ 662}$ ,  $\underline{SOC\ 663}$ ,  $\underline{SOC\ 670}$ ,  $\underline{SOC\ 680}$ , and  $\underline{SOC\ 684}$ .
- 3. Two electives (eight credits)

  Two courses from any Sociology 500- or 600-level offerings, or approved graduate-level courses from cognate social science and interdisciplinary social science departments.
- 4. *Master's paper research (four credits):*SOC 698 Master's Research Paper

## **Degree Candidacy**

Students in the graduate program are admitted to candidacy for the M.A. degree when they have successfully completed the core courses. Successful completion is accomplished by achieving a grade-point average of at least 3.00 for the core courses, with no grade lower than a B-.

## **Core Courses**

- SOC 640 Sociological Theory
- SOC 650 Sociological Research Methods
- SOC 651 Sociological Statistics

## **Graduate-Level Seminars**

- SOC 661 Aging and the Life Course
- SOC 662 Deviance and Social Control

- SOC 663 Criminological Theory
- SOC 670 Gender and Society
- SOC 680 Race and Ethnicity in American Society
- SOC 683 Sociological Analysis of Work and Economic Change
- SOC 684 Urban Social Change

#### **Elective Courses**

- SOC 505 Urban Sociology
- SOC 510 Marriage and the Family
- SOC 511 Individual and Society
- SOC 512 Sociology of Mental Illness
- SOC 513 Sociology of Education
- SOC 515 Population Problems
- SOC 516 Sociology of Aging
- SOC 517 Sociology of Gender
- SOC 518 Childhood and Adolescence
- SOC 540 Criminology
- SOC 541 Juvenile Delinquency
- SOC 542 Sociology of Law
- SOC 543 Medical Sociology
- SOC 545 Social Control
- SOC 546 Corporate and Governmental Deviance
- SOC 555 Ethnographic Research Methods
- SOC 556 Database Management for Social Research
- SOC 580 Racial and Ethnic Inequality
- SOC 583 Political Sociology
- SOC 588 Sociology of Work and Organization
- SOC 589 Sociology of Non-Western Societies: Region
- SOC 672 Advanced Qualitative Methods
- SOC 673 Advanced Quantitative Methods
- SOC 674 Advanced Social Statistics
- SOC 696 Individualized Study

#### **Individual Research**

SOC 698 Master's Research Paper

Registration for all 500- and 600-level courses requires permission of Graduate Program Director.

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# communication





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## Master of Communication

## **Department of Communication**

Music and Communication 233 (216) 687-4630 www.csuohio.edu/com/grad.htm

## THE FACULTY

#### **Professors:** Associate Professors: Assistant Professors:

Robert I. Abelman David J. Atkin Eileen Berlin Ray Leo W. Jeffres Sidney Kraus Jae-won Lee Carolyn A. Lin Kimberly A. Neuendorf Richard M. Perloff Austin Allen Susan E. Kogler Hill, *Chair* Michael Rand

George B. Ray
Jill E. Rudd

Reneé A. Botta Cheryl Campanella Bracken Jenifer E. Kopfman Loreen Olson

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PURPOSE, OBJECTIVES, AND CAREER INFORMATION

## **Department of Communication**

Music and Communication 233 (216) 687-4630 www.csuohio.edu/com/grad.htm

The master's degree program provides graduate education in communication theory and methodology for students who desire to 1) apply communication strategies to work-related problems; and 2) ultimately pursue doctoral studies in communication. The program is directed primarily toward the development of communication scholars and specialists, i.e. individuals who are able to apply knowledge of communication theory and methodology to the analysis and solution of a variety of communication problems. The program emphasizes the ability to synthesize and interpret research in socially useful ways while also allowing for specialization in the actual conduct of research.

Communication techniques and problem-solving strategies incorporated in this program provide an effective background for individuals in careers such as corporate media or training, journalism, organizational communication consulting, promotional communication, and campaigning. Also, business or management personnel who have a need for experience in communication problem solving may find the program useful. Recent graduates of the program are employed in such diverse fields as advertising/public relations research, broadcast programming, corporate research, government, personnel/administration, and retailing. Others have continued on with doctoral studies at major U.S. universities.

The key words "applied theory and methodology" emphasize that students will be expected to utilize their education in the pursuit of their individual career objectives. For most students, this will occur directly when they conduct a final thesis or project.

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## **COMMUNICATION RESEARCH**

Communication research involves the scientific study of communication in order to help individuals and institutions meet the changing needs of today's society. The members of the graduate faculty have published hundreds of articles and chapters, more than 20 books, and have received grants and Fulbright Fellowships. Their areas of expertise include communication technologies, corporate communication, conflict management, health communication, and media audience analysis. According to a recent study in the Journal of the Association for Communication Administration (Spring 1996), the Cleveland State University Department of Communication ranks among the top four nationally.

Graduate students are encouraged to work as research interns with faculty (see COM 596). Students also are encouraged to present their work at professional conventions and to coauthor papers for both scholarly and trade publications. Recent research projects involving graduate students include the diffusion and use of new communication technologies, mass media and interpersonal influences on career aspirations of teenagers, college student perceptions of and communication about date rape, accounts of unexpected events in organizations, affection exchange in father-son relationships, how TV violence affects ethnic and racial stereotypes, effects of community characteristics on newspaper reporting styles, using Internet web sites for community integration, language attitudes in New Zealand, and communication deficiencies in interpersonal and organizational contexts.

Graduate students also work with the Communication Research Center on survey projects for clients that include regional and national marketing/research agencies.

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#### FINANCIAL ASSISTANCE

Research and teaching assistantships are available. Assistantships are awarded on the basis of merit as represented in undergraduate records and letters of recommendation, as well as financial need. Graduate assistants must maintain at least a 3.00 grade-point average. Receipt of more than one grade below a "B" also warrants revocation of an assistantship. The program also offers a variety of scholarships. Graduate assistantships are awarded starting in March until all positions are filled.

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## **ADMISSION INFORMATION**

Applicants for admission to the master's program in Applied Communication Theory and Methodology must:

- 1. Hold a bachelor's degree from an accredited college or university.
- 2. Have a cumulative grade-point average of at least 2.75.
- 3. Submit the results of either the Miller Analogies Test or the Graduate Record Examination. Students with an undergraduate GPA of 3.75 or higher are exempted from this requirement.

An undergraduate major in communication is not required for admission to this program. However, applicants without such a degree may be required to make up deficiencies either before admission or during the first semester of enrollment. No graduate credit will be granted for making up deficiencies.

Applicants are screened by the Department Graduate Committee, which makes its decision based on:

- 1. The undergraduate record.
- 2. The career aspirations of the candidate.
- 3. A statement from the applicant regarding the expected benefits to be derived from the program.
- 4. Performance on the Graduate Record Examination or the Miller Analogies Test.
- 5. Two or more letters of recommendation.

Students who enroll in the program should be interested in relating course work to career objectives, and to solving communication problems. Students may enter the program in fall or spring semester.

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#### **CURRICULUM**

The program requires the completion of 32 or 38 hours, depending on exit option, including at least 24 required communication credits as follows:

**Core Requirements** (eight credits)

COM 501 COM 512

**Communication Theory** (eight credits)

(two of the following required)

COM 510 COM 520 COM 530 COM 540

**Research Methods** (four credits) (one of the following required)

COM 531

COM 532

COM 533 COM 534

**COM 535** 

Cognate Courses (four credits) (one of the following required)

COM 541

COM 542

**COM 543** 

**COM 544** 

COM 548

**COM 549** 

**COM 590** 

**Electives** (four or 12 credits, depending on exit option)

**Exit Options:** COM 589, COM 597, COM 598, or COM 599.

Students have four exit options: thesis, project, collaborative research, and comprehensive examinations. For the thesis option, students take four credit hours of electives and four credits of thesis. For the project option, students take four credit hours of electives and four credits of project. For the collaborative research exit option, students take four credit hours of electives and the four-credit collaborative research course. For the comprehensive examination option, students take 12 hours of electives and the two-credit examination.

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## **DEGREE REQUIREMENTS**

Successful completion of the master's degree program in applied communication theory and methodology requires the following:

- 1. Successful completion of a minimum of 32 or 38 credit hours, depending on the exit option, which may include a maximum of eight hours of transfer credit and/or a maximum of four hours of credits in 400-level courses taken outside of the Department of Communication, with departmental approval.
- 2. Completion of a minimum of 20 credit hours in communication courses at Cleveland State University as a graduate student, not including

- collaborative research, comprehensive examination, project, or thesis credits (COM 589, COM 597, COM 598, or COM 599).
- 3. Completion of a program of study approved by the Graduate Committee in Communication and the student's master's committee.
- 4. A minimum 3.00 grade-point average in all courses taken for the degree.
- 5. Students have four options for the completion of their M.A.C.T.M. following course work: a thesis, a project, collaborative research, or a comprehensive examination.
  - a. Thesis students must submit a thesis and present an oral defense of their research. A maximum of four credit hours for thesis research (COM 599) may contribute to the 32-credit total.
  - b. Project students must submit a project report and orally defend the report. A maximum of four credit hours for the project (COM 598) may contribute to the 32-credit total.
  - c. Students must successfully complete the Collaborative Research Project (<u>COM 589</u>). A maximum of four credit hours may contribute to the 32-credit total.
  - d. Non-thesis/non-project/non-collaborative research students must complete eight additional credit hours of course work (for a total of 36 hours), and pass a comprehensive examination (COM 597, two credit hours).
- 6. Students must present a bound copy of the thesis or project to each member of the M.A.C.T.M. committee and to the Department of Communication Graduate Office.
- 7. Requirements for the Master of Applied Communication Theory and Methodology degree must be met within six calendar years of the student's admission to the program.

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## **REQUIRED COURSES**

Students should consult with their advisor to determine when courses should be taken. The following are required core courses for all students seeking the master's degree:

<u>COM 501</u> Pro Seminar in CommunicationCOM 512 Communication Research Methods

All other 500-level communication courses are electives. Courses in other departments may be taken in lieu of these courses, with departmental approval. Specific elective needs and interests of students will determine how many electives are completed outside of the department.

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education

engineering

health professions

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social and behavioral

sciences

urban affairs

CERTIFICATE AREAS

ADDENDA

## social and behavioral sciences:

## economics **economics**





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[DEGREE REQUIREMENTS]

## Master of Arts in Economics

## **Department of Economics**

Rhodes Tower 1715 (216) 687-4520 www.csuohio.edu/economics/marts.html

#### THE FACULTY

**Professors:** Associate Professors:

Diran Bodenhorn, Edward B. Bell

Emeritus John F. Burke, Jr., Emeritus

Karl B. Bonutti, *Emeritus* Myong-Hun Chang Leonard W. Martin, Jon D. Harford

Emeritus Harvey S. Rosen, Emeritus

Vijay K. Mathur, *Chair* Sheldon H. Stein Clinton L. Warne, Douglas O. Stewart

Emeritus Allan J. Taub

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#### INTRODUCTION

The primary objective of the graduate program in economics is to develop economists who can meet the demand of the private sector, the not-for-profit sector, and government for competent personnel who are well trained in the tools of economic analysis and measurement. The program stresses a strong foundation in standard economic theory, econometric methods, and their

application to current problems faced by businesses, the not-for-profit sector, and government agencies. Although the Master of Arts in Economics is designed as a terminal degree program, students who complete the program are well prepared for further graduate training in economics. The program is aimed at students with an undergraduate degree in economics or business, as well as students with undergraduate training in other academic fields.

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## FACULTY RESEARCH AND PUBLICATIONS

Faculty members conduct research and publish articles on a wide range of economic issues, including pollution-control policies, location of firms, regional economic development, industry studies, health economics, lifetime earnings, and public finance.

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## FINANCIAL ASSISTANCE

Graduate assistantships are available to a limited number of qualified graduate students. Assistants receive a stipend and tuition support. Contact the Department of Economics for graduate assistant application information. Other employment opportunities may be available on campus. For information on the graduate assistantship policy see the section on Expenses and Financial Aid: Graduate Assistantships in the front of this Catalog.

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#### ADMISSION INFORMATION

To be admitted as a Regular graduate student, the applicant must have a bachelor's degree with at least a 2.75 grade-point average and have successfully completed courses in intermediate microeconomics, intermediate macroeconomics, calculus, and statistics. Students who do not meet these qualifications are encouraged to take the requisite courses and/or consider the options described in the section on Non-Degree Admission in this Catalog. International applicants must provide official TOEFL and GRE (general) test score reports from ETS.

Students are advised to begin the program in the fall semester.

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## **DEGREE REQUIREMENTS**

The M.A. program in Economics requires the completion of 33 credit hours, including seven required courses plus two approved elective courses as follows:

## Required

- ECN 610 Mathematical Economics for Economists (two credits)
- ECN 622 Statistical Methods for Economists (three credits)
- ECN 625 Econometrics (four credits)
- ECN 633 Advanced Microeconomics (four credits)
- ECN 635 Competition and Strategy (four credits)
- ECN 643 Advanced Macroeconomics (four credits)
- ECN 654 Financial Economics (four credits)

#### **Electives**

Select two of the following approved courses for a total of eight credits:

- ECN 541 Business Fluctuations and Forecasting
- ECN 550 Economics of Law
- ECN 574 Environmental and Natural Resource Economics
- ECN 582 International Economics
- ECN 694 Special Topics in Economics
- ECN 695 Seminar in Economics

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social and behavioral

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urban affairs

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ADDENDA

social and behavioral sciences:

# psychology - m.a.







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## Master of Arts in Psychology

## **Department of Psychology**

Chester Building 158 (216) 687-2544 www.csuohio.edu/psy/grad.html

#### THE FACULTY

#### **Professors: Associate Professors: Adjunct Professors:**

Mark H. Ashcraft, **Emeritus** Chair James A. Bard, **Emeritus** Brian F. Blake **Emeritus** Bette Bonder Stephen R. Coleman David M. Grilly Connie Hollinger Boaz Kahana Frank M. Marzocco. Assistant Professors: Kevin Kukoleck **Emeritus** Richard F. Rakos James M. Schuerger, Norma Cofresi **Emeritus** Stephen D. Slane Robert N. Sollod

Phillip L. Emerson, Leslie E. Fisher Robert F. House, Colleen McMahon Kathleen McNamara Deborah L. Plummer Albert F. Smith

Marise Alexander Phil Belzunce Michael Brazzel Francis W. Chiappa Diane Coble **Treacy Crowley** James DeLametre Karen Groth Lalei Gutierrez James Hinkelman-Bahn

Chieh Chen Bowen Jennifer Druley-Tholt Leigh Ann Forsyth Keith A. Kline Andrew Slifkin

Robert LaGuardia Bruce Menapace Michael Wisniewski

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#### THE PROGRAMS

Benjamin Wallace

John P. Wilson

The Master of Arts (M.A.) program in the Psychology Department is comprised of a Clinical/Counseling specialization, an Experimental Research specialization, a Consumer-Industrial specialization, and a Diversity Management specialization. The program in Clinical/Counseling psychology is designed primarily for students interested in the field of psychological service, broadly conceived to embrace community, clinical, and educational settings, including school psychology. The program in Experimental Research psychology emphasizes the acquisition of applied and basic research skills. It is based on a sequence of both core and individually planned courses, culminating in the successful completion of a thesis. The program in Consumer-Industrial Research prepares students to apply psychological research techniques and concepts in business and institutional settings. Graduates are qualified for positions in public opinion polling, market research, program evaluation, personnel, human resources, and other applied research and data analysis contexts. The program in Diversity Management provides students with a solid foundation in psychological theory, research, and applied skills necessary for effective understanding and management of human diversity in American society. Return to top

#### **ADMISSION INFORMATION**

In addition to Graduate College requirements for admission, the Department of Psychology requires of all applicants:

- 1. Scores from both the General and Psychology Subject Tests of the Graduate Record Examination (GRE),
- 2. A firm foundation in the basic principles of psychology, and
- 3. A personal statement.

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#### FOR MORE INFORMATION

For further information contact the Psychology Department at (216) 687-2544 to arrange an appointment with a program advisor. The Psychology Department is located in the Chester Building, Room 158.

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#### CLINICAL/COUNSELING PSYCHOLOGY PROGRAM

The specialization in Clinical/Counseling Psychology is designed primarily for students interested in the field of psychological service in community, clinical, and educational settings. This specialization requires 52-58 credit hours in two years of full-time participation. Students begin in the fall semester. No part-time students are admitted.

The faculty holds firmly to the view that the scientific and applied aspects of psychology should be integrated. Theoretical conceptualization and research findings must provide the basis for effective use of methods and techniques of both assessment and intervention processes. In this context, the program emphasizes learning-by-doing, so that applied relevance can be given to the scientific and academic approaches of psychology, and the conceptual understanding of utilitarian practices and professional experience may be attained. Thus, real, in-the-world experiences are utilized for learning wherever possible, and these experiences are closely related to the findings and formulations of psychological research and theory. In this way the Clinical/Counseling specialization is relevant to significant human problems of contemporary society, to current methods aimed at their amelioration, and to the developing science of psychology. Through critical and creative thinking, the student is challenged to apply the knowledge of general psychological

principles and methods to the great range of human beings and their diverse problems as individuals, groups, and communities.

The program is organized around three tracks: School Psychology, Clinical Practitioner, and Doctoral Preparation. All three tracks emphasize core content and basic skills in the first year, and practical experience and professional skills in the second year. The curriculum emphasizes human development and its deviations, as well as the methods and techniques of assessing and influencing this development in clinical, community, and educational contexts. Students may elect a thesis option as part of the Clinical/Counseling program.

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### First Year

During the first year, students cover most of the basic theoretical course work, including human development and learning, motivation and attitudes, and child and adult deviance. Cognitive and behavioral intervention and methods and techniques of assessment and measurement are introduced. The year-long practicum consists of working with assessment procedures and acquiring clinical interviewing skills.

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### **Second Year**

During the second year, the academic course work and practica on campus are devoted to theory and methods of intervention, including individual, group, and community. Courses in ethical and legal issues and cultural diversity address professional considerations. Fieldwork is arranged off-campus for qualified students under the supervision of experienced professionals in agencies and institutions that offer psychological services to the community.

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### **Faculty Research and Publications**

The faculty members of the Clinical/ Counseling specialization have diverse interests which are reflected in the course content of the classes they teach and in articles written for national and international publications. These interests include child and adult psychopathology; human motivation and attitudes;

intelligence; psychopharmacology; experimental analysis of behavior; psychology of the gifted and talented; women's issues; evaluation and treatment of stress reactions; behavior modification; legal and ethical issues in psychology; community interventions; multicultural issues; abnormal psychology; gerontology; personality assessment; intervention-based assessment; social competence promotion; and health and wellness.

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### **Financial Assistance**

Assistantships or tuition waivers are generally awarded to first-year students; all application materials must be received by February 15 for full consideration for financial assistance. Typically, the award consists of a full tuition grant or, as budgets permit, an assistantship that includes a stipend. During the second year of the full-time Clinical/Counseling specialization, some students work in paid fieldwork placements.

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### **Career Information**

Graduates of the Clinical/Counseling specialization typically are employed as counselors/psychology assistants in such work settings as hospitals, mental health centers or clinics, private practice, human service agencies, industrial settings, and geriatric facilities. Primary functions include individual counseling and therapy, assessment, group or family therapy, consultation, and administration. About 25 percent of graduates of this specialization continue on to doctoral training; most of these were employed at least one year prior to entering a doctoral program.

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### **Admission Requirements**

The Clinical/Counseling specialization of the Department of Psychology requires of all applicants:

- 1. Scores from both the General Aptitude Test and the Subject Test in Psychology of the Graduate Record Examination;
- 2. A firm foundation in the basic principles of psychology;

- 3. A departmental information form and personal statement;
- 4. Official transcripts;
- 5. Two letters of recommendation; and
- 6. An interview, by invitation, with faculty members of the Clinical/Counseling program committee.

For optimal consideration of their application to the Clinical/Counseling specialization, prospective students should have the following course work completed by the time of enrollment: Introductory Psychology, Personality or Theories of Personality, Abnormal Psychology, Memory and Cognition, Basic Statistics, and Experimental Psychology (Laboratory or Research Design).

Additional preparation above the minimum suggested will likely strengthen applications. If an applicant received a B.A. degree in psychology five or more years ago, he or she is encouraged to update credentials by enrolling in advanced undergraduate or beginning graduate courses.

The application deadline is February 15.

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### **Degree Requirements**

(Clinical/Counseling Specialization)

### FIRST YEAR Fall

PSY 511 Univariate Statistics and Experimental Methodology

Required for first year Doctoral Preparation students

PSY 535 Clinical Interviewing Practicum

PSY 536 Behavioral Observation and Consultation Practicum

Required for School Psychology students only

PSY 538 Intellectual Assessment and Practicum

PSY 550 Child and Adolescent Development and Disorders

Required for School Psychology students only; Clinical Practitioner and Doctoral Preparation students may substitute <u>PSY 555</u>

### **Spring**

PSY 537 Child and Adolescent Assessment and Treatment

Required for School Psychology students only

PSY 542 Theories of Personality

Required for Clinical Practitioner and Doctoral Preparation students only

PSY 555 Adult Psychopathology

Not required for School Psychology students; Clinical Practitioner and Doctoral Preparation students may substitute PSY 550

PSY 587 Personality Testing and Laboratory

Required for Clinical Practitioner and Doctoral Preparation students only

PSY 611 Advanced Data Analysis with Computer Applications

Required for Doctoral Preparation students only; may substitute an approved course in methodology or statistics

PSY 651 Clinical Psychopharmacology\*

### Summer (first or second year; all optional; all recommended)

PSY 605 Human Services Consultation and Intervention

PSY 663 Neuropsychological Assessment

PSY 671 Stress, Abuse, and Trauma

### SECOND YEAR

### Fall

PSY 511 Univariate Statistics and Experimental Methodology

Required for second year Clinical Practitioner and School Psychology students

PSY 604 Concepts and Methods of Individual Psychotherapy

Elective for all tracks

PSY 660 Ethical, Legal, and Professional Issues

PSY 672 Multicultural Psychology and Diversity Practicum

PSY 690 Fieldwork Placement

PSY 699 Research and Thesis

Required for Doctoral Preparation students only

### **Spring**

PSY 513 Measurement and Program Evaluation

Required for School Psychology students only

PSY 542 Theories of Personality or

PSY 651 Clinical Psychopharmacology\* <u>PSY 572</u> Group Interventions

Required for School Psychology students only

PSY 650 Family and Systems Intervention

Elective for Clinical Practitioner and Doctoral Preparation students

PSY 670 Crisis Management

Required for School Psychology students only

PSY 690 Fieldwork Placement

PSY 699 Research and Thesis

Required for Doctoral Preparation students only

\*Offered in alternate years

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### **Fieldwork Placement**

All students in the Clinical/Counseling specialization who perform satisfactorily in the first year are assigned half-time (20 hours per week) field placements in their second year (PSY 690 and PSY 691). Four hours of academic credit are earned each semester for satisfactory completion of fieldwork; grades of S (Satisfactory) or F (Failure) are given upon completion of each semester over the full year's experience. Periodic, comprehensive evaluations of the students' work are made by the agencies' fieldwork supervisors. Students may, on occasion, be required to continue their fieldwork placements into the summer, if necessary, to demonstrate satisfactory performance.

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### **Exit Requirements**

A thesis is required of Clinical/Counseling students in the Doctoral Preparation track. For School Psychology and Clinical Practitioner students, graduation is based on the successful completion of the required courses and fieldwork experience. These students, however, may elect to substitute a thesis for specified course work as part of their program of instruction.

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### EXPERIMENTAL RESEARCH PROGRAM

### Introduction

The Experimental Research specialization leading to the degree of Master of Arts in Psychology imparts a mastery of fundamental research methods and statistical analysis, a solid acquaintance with several areas of psychological research, and a specialized expertise within one area. The program consists of required and elective course work, as well as individualized research experience, culminating in the successful completion of a master's thesis. Graduates of the program typically pursue one of two directions: either further graduate work leading to the Ph.D. or research-related occupations in a variety of public or private institutions.

Students are expected to immediately become involved in research and to continue this involvement throughout the two-year course of study. Most often, this activity consists of direct involvement in a faculty member's research

program, gaining expertise in this area, then demonstrating this expertise in the thesis. That faculty member becomes the student's mentor or primary teacher/advisor. An attempt is made to assign students to faculty advisors who share their research interests.

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### **Faculty Research**

Current areas of faculty research include human performance, adolescent behavior, attention, behavioral pharmacology, decision making, health psychology, human cognition, human sexuality, history of psychology, mathematical cognition, person perception, stress and coping, visual perception, and cardiovascular responsivity to stress. There is a special focus on health psychology, biological basis, and cognitive processes. Research in an applied area of psychological concern is also possible.

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#### **Research Facilities**

Experimental research facilities include a number of individual testing rooms equipped with personal microcomputers and Micro Experimental Laboratory (MEL) software for data collection in perception, attention, memory, cognition, and decision making. The program also includes social, personality, and perception laboratories, a lab equipped to record cardiovascular responses, and a movement lab. A small animal facility for physiological, learning, and psychopharmacological research is available. Data analysis can be conducted using the University's computer labs or through the use of statistical packages available on individual microcomputers (e.g., SAS and SPSS).

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### **Admission Requirements**

The Experimental Research specialization of the Department of Psychology requires of all applicants:

- 1. Official scores from both the General Aptitude Test and Subject Test in Psychology of the Graduate Record Examination (GRE);
- 2. A firm foundation in the basic principles of psychology;

- 3. A departmental information form and personal statement;
- 4. Official transcripts; and
- 5. Two letters of recommendation.

Applications are reviewed on a rolling basis. There is no specific deadline. For full consideration for financial assistance, however, applications should be completed no later than February 15.

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### **Degree Requirements**

(Experimental Research Specialization)

Forty (40) credit hours are required for graduation from the program. The course requirements are listed below. A student is expected to involve his or her mentor/advisor in the course selection process so that course work is well suited to the student's objectives. A normal course load is 12 to 16 credits per term. Deviation from the specified curriculum, as well as acceptance of transfer credit, must be approved by the Experimental Research Program Committee.

### Core A. 16 credits

<u>PSY 511</u> Univariate Statistics and Experimental Methodology (offered once a year)

<u>PSY 611</u> Advanced Data Analysis with Computer Applications (offered once a year)

<u>PSY 699</u> Research and Thesis (taken twice for a total of eight credits) (offered every semester)

**Core B.** *16 credits* (each course offered every two to three years) *Select four of the following*:

PSY 525 Social Psychology

PSY 561 Classical, Instrumental, and Operant Conditioning

PSY 562 Learning, Memory, and Cognition

PSY 568 Advanced Perception

PSY 582 Personality Theory and Research

PSY 588 History of Psychology

PSY 589 Physiological Psychology

PSY 651 Clinical Psychopharmacology

Electives. Eight credits

Any graduate courses (including non-psychology courses) approved by a

faculty advisor.

If the student has passed PSY 342 or PSY 442 as a CSU undergraduate, PSY 582 is waived. If PSY 421 was completed, PSY 651 is waived. If PSY 495 was completed, PSY 588 is waived. If PSY 582, PSY 588, and PSY 651 are waived, the student can use any applicable graduate-level courses to meet elective requirements.

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### **Exit Requirements**

After completion of the 40-credit hour sequence of courses and acceptance of the completed thesis by the Graduate College Office, the student is awarded the M.A. degree in Psychology.

Specific requirements concerning format and deadlines can be obtained in the Psychology Office (Chester Building, Room 158) or from the Graduate College Office (Fenn Tower, Room 1111).

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### social and behavioral sciences :

### social work





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MICRO CONCENTRATION MACRO CONCENTRATION **TESTING OUT POLICY** TRANSFER OF CREDIT PROGRAM REQUIREMENTS **Full-Time Program** 

4 - year Part-Time Program ADDENDA--THE FACULTY

### Master of Social Work

Joint Program with The University of Akron

### **Department of Social Work**

Chester Building 302 (216) 687-4560 www.csuohio.edu/socialwork/swk grad.html

### THE FACULTY

#### **Professors: Associate Professors: Assistant Professors:**

Jerry Faria\* Virginia L. Fitch\* Zev Harel Willa M. Hemmons. Emerita Maggie Jackson Edward A. McKinney Murali D. Nair Mieko K. Smith

Ralph Brody Andrew W. Edwards Larry W. Foster Lonnie R. Helton Michael R.Williams

Janet Bussey Linda Crowell\* Gloria Freire Peter Li\* Timothy McCarragher\* Priscilla Smith\* Nikki Wingerson\*

<sup>\*</sup>Faculty at The University of Akron

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### THE PROGRAM

The mission of the Joint M.S.W. program is to prepare students for specialized, advanced-level, self-critical, accountable, and autonomous practice with oppressed, at-risk, and vulnerable populations. The program provides a rigorous intellectual base, an opportunity for effective skill development, and an educational perspective that views human diversity as desirable and enriching to society. Students are equipped with the knowledge, skills, and values appropriate to the social work profession, the conceptual base of professional social work, the broad-based research strategies of the field, and the various social work roles and intervention strategies used in social work practice.

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### DISTANCE LEARNING

The program is delivered through distance learning technology which transmits live-action video signals between the two campuses. Students and instructors at the two locations see each other through television monitors and speak to each other through an associated audio system. Each campus has a dedicated classroom equipped with three fixed cameras; an overhead document camera to display print materials, opaque objects, and transparencies; one camera facing the instructor; and one camera facing the students to capture their questions, comments, and reactions. Classrooms are equipped with three television monitors, one of which is used to view the students at the remote location. The technology is designed for maximum participation by students and ease of operation by the instructor.

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### FACULTY AND RESEARCH PUBLICATIONS

The faculty members of the Joint Master of Social Work Program conduct applied and basic research on a variety of major contemporary social issues, including drug abuse, aging populations, mental health, juvenile offenders, family and children issues, social work practice, social policy analysis, and community service. In the past few years faculty members have authored a number of books and journal articles. The research has been supported by

several large federal and foundation grants and a number of smaller state and local awards. Opportunities exist for student involvement in this work.

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### **CAREERS IN SOCIAL WORK**

Graduates of the Joint Master of Social Work Program hold a variety of positions in the public, private, and nonprofit sectors. The alumni roster includes directors of local agencies and other nonprofit organizations as well as program planners and managers working in a broad spectrum of urban human service agencies.

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### FINANCIAL ASSISTANCE

A limited number of graduate assistantships and tuition grants are available to qualified students. Interested students should contact the Social Work Graduate Program Director.

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### **ADMISSION REQUIREMENTS**

In addition to the graduate colleges' admission requirements at Cleveland State University and the University of Akron, the Joint M.S.W. program requires of all applicants:

- 1. An undergraduate major in social work or a related field;
- 2. A minimum grade-point average of 3.00 in social work and behavioral science courses taken prior to application for admission;
- 3. A minimum of eight courses in the social and behavioral sciences;
- 4. Three letters of reference;
- 5. An essay of three-to-five typed pages explaining:
  - a. Why the student wants to be a social worker;
  - b. Why a graduate degree is felt to be necessary to fulfill the applicant's personal or professional objectives;
  - c. The applicant's views regarding diversity in society;
  - d. A situation in which the student was the recipient/provider of

- help, emotionally, socially, or economically; and
- e. A description of the applicant's previous social work/human service work experience. *Note: No credit is given for work or life experience.*

### 6. Notification, in writing of:

- a. Preference for the day, evening, or accelerated program;
- b. Preference for full-time or part-time program;
- c. Intended second-year Area of Concentration < Micro (Direct)
  Practice or Macro Practice; and
- d. Preference for advanced standing must have undergraduate degree in Social Work.

The application deadline is March 15. Submit materials to the Graduate Admissions Office. Students are expected to adhere to the program format under which they were admitted (day/evening/accelerated, micro/macro, full-time/part-time). Any changes in this admission status will be based on the program's ability to accommodate the change. Changes must be requested before the beginning of the academic year.

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### MICRO CONCENTRATION

Refers to advanced social work practice with small client systems (individuals, families, and groups) and collateral persons, professionals, and organizations relevant to practice within these small systems. Micro field practicum assignments involve in-depth assessment of client systems and resources; crisis intervention; application of intervention theories and skills; formulation of short-term and long-range goals; utilization of empowerment strategies to meet these goals; identification and use of community resources; and evaluation of intervention outcomes.

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### MACRO CONCENTRATION

Refers to advanced social work practice with large client systems (organizations, neighborhoods, and communities) and focuses on supervision, management, and administration within organizations; research, planning, program writing, policy formulation, social advocacy, and impacting the legislative process. Macro field practicum assignments may include

development/implementation of needs assessment methodologies; identification of strategies and outcome measures; participation in grant preparation, design and/or implementation of programs and service delivery systems; involvement in program evaluation; work with client groups for the purpose of community organizing and/or social/legislative policy change; and evaluation of intervention outcomes.

**Note:** Applicants should be aware that having a prior felony conviction or prior sanctions for unprofessional conduct may impact future potential for obtaining field placements, and social work employment and licensure.

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### **TESTING OUT POLICY**

To assist students in avoiding duplication and redundancy of course content during the foundation year, the M.S.W. program allows students the opportunity to test out of the following courses:

SWK 622 Fundamentals of Social Work Research I

SWK 631 Human Behavior and the Social Environment: Small Systems

SWK 646 Social Welfare Policy I

Students who wish to test out of one or more of the above courses must notify the M.S.W. Program Director at least three weeks prior to the start of the semester in which the course is normally taught. The proficiency exam must be taken no later than the end of the first week of classes in that semester. There is no fee or penalty associated with taking exams. However, each exam may be taken only once. Preparation materials for these exams are available in the department offices at both sites. Students will still be required to complete a total of 60 graduate credit hours.

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### TRANSFER OF CREDIT

Up to one-third of the total credits required for the M.S.W. degree may be transferred from another accredited social work graduate program at an accredited college or university. All transfer credit must be at the "A" or "B" level. The credits must fall within the six-year time limit to complete degree requirements. Relevance of the credits will be determined by the M.S.W. faculty. Credit hours must not have been applied toward a previous graduate degree. Transfer students from other social work programs must submit field

work evaluation(s) and official transcripts at the time of application for admission.

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### PROGRAM REQUIREMENTS

Each student must complete a minimum of 60 graduate credits of approved courses in social work. There is no foreign language requirement. Students must complete an approved program of study which includes the following required courses:

### **Full-Time Program**

### **First Year Professional Foundation**

Fall Semester

SWK 601 Foundation Field Practicum I

(fall semester only)

SWK 609 Social Work Practice with Small Systems

SWK 622 Fundamentals of Social Work Research I

SWK 631 Human Behavior and Social Environment: Small Systems

SWK 646 Social Welfare Policy I

### **Spring Semester**

SWK 602 Foundation Field Practicum II (spring semester only)

SWK 605 Social Work Practice with Large Systems

SWK 623 Fundamentals of Social Work Research II

SWK 632 Human Behavior and Social Environment: Large Systems

SWK 647 Social Welfare Policy II

### **Second Year B Concentrations**

### Fall Semester B Micro (Direct) Practice

SWK 603 Advanced Field Practicum III (fall semester only)

SWK 607 Advanced Practice with Small Systems I

SWK 611 Dynamics of Racism and Discrimination

SWK 663 Psychopathy and Social Work

One elective

### **Fall Semester B Macro Practice**

SWK 603 Advanced Field Practicum III (fall semester only)

SWK 611 Dynamics of Racism and Discrimination

SWK 673 Community Organization and Planning

SWK 674 Community, Economic Systems, and Political Analysis

One elective

### **Spring Semester B Micro (Direct) Practice**

<u>SWK 604</u> Advanced Field Practicum IV (spring semester only)

SWK 608 Advanced Practice with Small Systems II

SWK 664 Direct Practice Research

Two electives

### **Spring Semester B Macro Practice**

SWK 604 Advanced Field Practicum IV (spring semester only)

SWK 671 Social Work Administration

SWK 672 Strategies of Community Organization

SWK 675 Program Evaluation

One elective

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### Four-Year Part-Time Program

### **Professional Foundation**

### First Year Fall Semester

SWK 631 Human Behavior and Social Environment: Small Systems

SWK 646 Social Welfare Policy I

### First Year Spring Semester

SWK 632 Human Behavior and Social Environment: Large Systems

SWK 647 Social Welfare Policy II

### **Second Year Fall Semester**

SWK 601 Foundation Field Practicum I

SWK 609 Social Work Practice with Small Systems

SWK 622 Fundamentals of Social Work Research I

### **Second Year Spring Semester**

SWK 602 Foundation Field Practicum II

SWK 605 Social Work Practice with Large Systems

SWK 623 Fundamentals of Social Work Research II

### Concentrations

### Third Year Fall Semester Micro I (Direct) Practice

SWK 611 Dynamics of Racism and Discrimination

SWK 663 Psychopathy and Social Work

### **Third Year Spring Semester Micro (Direct) Practice**

SWK 664 Direct Practice Research

One Elective

### Third Year Fall Semester Macro Practice

SWK 611 Dynamics of Racism and Discrimination

SWK 674 Community, Economic Systems, and Political Analysis

### **Third Year Spring Semester Macro Practice**

**SWK 675** Program Evaluation

One Elective

### Fourth Year Fall Semester Micro (Direct) Practice

SWK 603 Advanced Field Practicum III

SWK 607 Advanced Practice with Small Systems I

One Elective

### Fourth Year Spring Semester Micro (Direct) Practice

SWK 604 Advanced Field Practicum IV

SWK 608 Advanced Practice with Small Systems II

One Elective

### **Fourth Year Fall Semester Macro Practice**

SWK 603 Advanced Field Practicum III

SWK 673 Community Organization and Planning

One Elective

### **Fourth Year Spring Semester Macro Practice**

SWK 604 Advanced Field Practicum IV

SWK 671 Social Work Administration

**SWK 672** Strategies of Community Organization

**Please Note:** The scheduling of courses depends on the availability of rooms equipped with distance education technology as well as other factors. Therefore, the days and times courses are offered vary from year to year. Students enrolled in either the full-time or part-time program must be prepared to be flexible when the schedule of classes

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social and behavioral sciences:

## psychology specialist





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### Psychology Specialist - School Psychology Program

### **Department of Psychology**

Chester Building 158 (216) 687-2544 www.csuohio.edu/psy/grad.html

### THE FACULTY

Professors: Assistant
Professors:

Mark H. Ashcraft, Chair

Bette Bonder Chieh Chen Bowen
Stephen R. Coleman Norma Cofresi
David M. Grilly Jennifer Druley-Tholt

Connie Hollinger Leigh Ann Forsyth
Boaz Kahana Keith A. Kline
Richard F. Rakos Andrew Slifkin

James M. Schuerger,

Emeritus

Stephen D. Slane

Robert N. Sollod France
Benjamin Wallace Lalei
John P. Wilson

Associate Professors:

**Adjunct Professors:** 

Francis W. Chiappa Lalei Gutierrez Kevin Kukoleck Robert LaGuardia

Bruce Menapace Richard Starn

Nichard Starii

Michael Wisniewski

Leslie E. Fisher Colleen McMahon Kathleen McNamara Deborah Plummer Albert F. Smith

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### INTRODUCTION

The Psychology Specialist (Psy.S.) degree is awarded to students upon completion of three years of full-time preparation for a career as a School Psychologist. Students are required to complete the two-year Clinical-Counseling specialization of the Master of Arts degree program in Psychology as a pre-requisite for matriculation into the Psy.S. degree program, which comprises an additional year (30 credit hours) of study.

The School Psychology program prepares students to deliver a wide range of psychological services to children, youth, and adults. The program is embedded in a generalist model, which views the school-aged child as a member of many systemsaclassroom, school, family, and community. With the current expansion of school psychological services to include an array of assessment and intervention-related activities, it is important for students to learn how to apply a range of skills not only to children, but to the many groups participating in and affected by educational systems. Consequently, students are trained as both generalists in psychology and as practitioners of the unique specialization of School Psychology.

### **FACULTY RESEARCH**

School Psychology Program faculty are conducting research in applied behavior analysis, educational interventions, intervention-based assessment, gifted women and girls, and social competence promotion. Students are encouraged to participate in faculty research, and may elect to complete a master's thesis reflecting their own research interests.

### FINANCIAL ASSISTANCE

Students in the School Psychology Program are eligible for the financial assistance that is available to students enrolled in the Clinical/Counseling specialization of the M.A. program. After completion of the M.A., financial assistance is not provided by the program, but third-year interns historically receive compensation as employees of supervising school districts.

### PROGRAM ACCREDITATION

The School Psychology Program is approved by the National Association of School Psychologists (NASP), and accredited with the Cleveland State College of Education programs by the National Council for Accreditation of Teacher Education (NCATE).

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### **CAREER INFORMATION**

Successful completion of the Psy.S. program in School Psychology confers immediate eligibility for school psychologist credentials from the Ohio Department of Education, which authorizes employment by schools in Ohio. In addition, graduates are eligible for certification by the National School Psychology Certification Board, and with several years of eligible experience, for licensure by the Ohio State Board of Psychology for the independent practice of school psychology. The market for school psychologists is very favorable, and is expected to remain stable through the next decade.

### ADMISSION REQUIREMENTS AND PROCEDURES

Admission to the Psy.S. program is granted only to students who have successfully completed the Clinical-Counseling specialization of the Master of Arts in Psychology program at Cleveland State University. Consequently, admission requirements for the Psy.S. program include those specified for admission to the Clinical-Counseling specialization (see the Master of Arts in Psychology section of this Catalog), in addition to the following:

- 1. Submit to the Graduate Admissions Office an Application for Graduate Admission to the Psy.S. program. (No fee is required of applicants who previously paid a graduate application fee.)
- 2. Successful completion of the Clinical-Counseling specialization of the Master of Arts in Psychology degree program, including satisfactory performance during the second-year Field Placement experience;
- 3. Recommendation by the Cleveland State faculty of the Clinical-Counseling specialization in Psychology;
- 4. Substantial interest in, and likelihood of success as a school psychologist, as judged by the student's performance as a graduate student in psychology, the written Personal Statement completed at the time of application, and an interview with the School Psychology Program Committee.

As a program approved by the National Association of School Psychologists, the School Psychology course sequence must be completed in its entirety; that is, students must enroll in all courses included in the M.A. and Psy.S. degree programs. In rare instances, and only with advance approval of the faculty, students who have earned graduate credit from other colleges or universities may be permitted to earn Credit by Examination (download at www.csuohio.

edu/grad college/.) for program courses when the student can demonstrate adequate and equivalent graduate-level preparation.

Graduate credit earned in an NASP-approved School Psychology program at another institution is considered for transfer to Cleveland State only if:

- 1. The credit was not used to obtain another degree; and
- 2. The credit was earned in courses deemed by the faculty to be equivalent to courses offered in the Cleveland State program.

Transfer of credit to Cleveland State is subject to regulations of the Graduate College. The Graduate Credit Transfer form may be downloaded at www. csuohio.edu/gradcollege/.

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### **DEGREE REQUIREMENTS**

Program requirements for the two-year, full-time Clinical-Counseling specialization of the Master of Arts in Psychology are described elsewhere in this Catalog. To satisfy state and national credentialing requirements, students who plan to matriculate into the Psy.S. School Psychology Program also must complete the following courses (including some offered only during the summer term): (see the Master of Arts in Psychology section of this Catalog for course descriptions)

PSY 564 Psychoeducational Intervention

PSY 725 Role and Function of the School Psychologist I and

PSY 726 Role and Function of the School Psychologist II

PSY 767 Special Topics in School Psychology: Reading; Consultation

PSY 790 Supervised Experience in School Psychology I and

PSY 791 Supervised Experience in School Psychology II

PSY 795 Seminar in School Psychology I and

PSY 796 Seminar in School Psychology II

Students who do not currently hold a valid credential ("teaching certificate" or "license") from the Ohio Department of Education, Division of Professional Development and Licensure, must complete the following additional courses:

PSY 694 Directed Observation in the Schools

(see the College of Education section of this Catalog for descriptions of the following courses; permission of instructors may be required for enrollment)

ESE 504 Teaching Students of Varying Abilities, or

ESE 502 Introduction to Individuals with Mild/Moderate Disabilities;

EDB 612 Curriculum Theory and Instruction, or

ECE 501 Developmental Curriculum for Early Childhood

ADM 613 School Law, or

ADM 614 Administration Principles and Practices, or

ADM 615 Instructional Leadership and Pupil Personnel Administration, or

ADM 675 Special Education Law

Prospective students who hold a current, valid teaching credential have several options for completing the credit-hour requirement for the Psy.S. degree. These options should be discussed with the School Psychology Program Director.

The third academic year of study consists primarily of a full-time, nine-month internship in a school district; internship placements are arranged by the School Psychology Program Director. Historically, internships have been funded by the Ohio Department of Education, allowing student interns to be paid as employees of supervising school districts. In return, students are required to work at least one year in Ohio schools subsequent to completion of the School Psychology internship. The number of internship placements available each year is limited by state and professional association standards; no student is guaranteed that an internship placement will be available in the fall term following completion of the Master of Arts degree program. A student whose internship placement is deferred due to factors beyond the student's control will receive priority placement for internship in successive years.

Written policies governing internships (and describing the University's role in arranging placements) are available from the School Psychology Program Director.

### **EXIT REQUIREMENTS**

Prior to the completion of the internship in School Psychology, students are expected to prepare and present an intensive case study reflecting a problem-solving consultation approach, incorporating assessment and intervention methods taught in the School Psychology program. In addition, students must successfully complete the national (Praxis) examination in School Psychology.

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### urban affairs:

# ph.d. in urban studies and public affairs





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### Ph.D. in Urban Studies and Public Affairs

### **College of Urban Affairs**

Urban Affairs 231 (216) 687-2136 urban.csuohio.edu/~ustweb/phd.htm

### THE FACULTY

Professors: Associate Professors:

Richard D. Bingham

William M. Bowen, Jennifer Alexander

Ph.D. Program Director Mittie Olion Chandler

Edward W. Hill Lawrence F. Keller

Miron Kaufman Wendy Kellogg

Sanda Kaufman

Danda Kaarinan

W. Dennis Keating,

Associate Dean,

Instruction and

Research

Norman Krumholz Helen Liggett

Vijay K. Mathur Dianne Rahm Alan K. Reichert

Mark Rosentraub, Dean

**Assistant Professors:** 

Nancy Meyer-Emerick Brian Mikelbank Robert A. Simons Michael W. Spicer Camilla Stivers Michael Tevesz

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### INTRODUCTION

The Ph.D. program in Urban Studies and Public Affairs integrates urbanrelated knowledge from a number of academic disciplines. Through disciplinary integration, doctoral students analyze, design, test, and evaluate strategies for urban policy making and management within the public and private sectors. The program is offered jointly by Cleveland State University and the University of Akron. Students may matriculate at either campus, although students are encouraged to schedule course work at both institutions to take advantage of the diversity of faculty backgrounds and approaches.

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### FINANCIAL ASSISTANCE

The Ph.D. program awards graduate assistantships on a competitive basis to students with superior academic records. Graduate assistantships are designed both to serve the needs of the College and to assist in the professional development of the student. Assistantships are regarded as apprenticeships during which students interact with academics and practitioners through classroom and applied instruction, research, and administrative experiences to become more effective members of their fields. Graduate assistants are required to spend 20 hours per week in their apprenticeships.

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### **ADMISSION INFORMATION**

Students are admitted to the Ph.D. program in Urban Studies for the fall semester only. Students entering the program with a master's degree are expected to have a grade-point average of 3.50 or better. Both undergraduate and graduate grade-point averages are considered in determining eligibility for admission. Cleveland State also permits students with bachelor's degrees to enter the program. Bachelor entry-level students must have achieved at least a

3.50 grade-point average in their undergraduate work.

The applicant is expected to have earned a minimum combined score of 1,050 on the quantitative and verbal sections of the Graduate Record Examination (GRE). Beyond the application requirements of the Graduate College, an applicant also must submit a writing sample, preferably a recently graded research paper, two letters of recommendation, and a statement of purpose for seeking a Ph.D. in urban studies and public affairs. The application deadline is March 1. Submit all materials to the Graduate Amissions Office.

International applicants whose native language is other than English, and who received their undergraduate and/or graduate degree(s) outside of the United States, must submit the results of the Test of English as a Foreign Language (TOEFL) or the Michigan English Language Assessment Battery (MELAB). The minimum scores required for admission are 525 for the TOEFL (197 for the computer-based TOEFL) and 85 for the MELAB.

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### **DEGREE REQUIREMENTS**

The Ph.D. program in Urban Studies and Public Affairs utilizes theory and analytical tools from a number of disciplines and professional fields to train senior-level managers, planners, and analysts in urban affairs and to prepare students for academic careers.

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### **COURSE REQUIREMENTS**

Depending on previous graduate course work, Ph.D. students must complete some or all of the following master's-level prerequisite courses before enrolling in core or specialization courses. Those entering with a bachelor's degree must complete all prerequisites. Students must earn a grade-point average of 3.00 or better in the following prerequisite courses:

PAD 600 Introduction to Public Administration or

PSC 605 Public Administration and the Political Process

<u>UST 601</u> Applied Quantitative Reasoning I

UST 602 Applied Quantitative Reasoning II

UST 603 Public Finance and Economics

<u>UST 605</u> Urban Spatial Structures

<u>UST 616</u> Systems and Processes of Policy Development *or* PSC 636 Policy Development and Evaluation

Following completion or waiver of prerequisites, each student is required to:

1. Complete a common core of five courses with a grade-point average of 3.00 or better. The core courses are:

UST 800 Urban Theory I

UST 801 Urban Theory II or

**UST 802** Logic of Inquiry\*

UST 803 Quantitative Research Methods I

<u>UST 804</u> Quantitative Research Methods II or

UST 805 Qualitative Research Methods in Urban Studies

<u>UST 806</u> Research Methods in Urban Studies

- 2. Complete a concentration of 20 hours and two electives. Each concentration includes a required seminar, which is normally the last course taken prior to the comprehensive examination. Available concentrations or areas of specialization are:
  - a. Public Administration
  - b. Urban Economic Development
  - c. Housing and Neighborhood Development
  - d. Environment
  - e. Urban Human Services Administration

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### COMPREHENSIVE EXAMINATION

Upon completion of all course work, students must take a comprehensive examination in the major area of specialization. Upon successful completion of the examination, a student is eligible to begin dissertation research.

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### **DISSERATION**

<sup>\*</sup>Students whose major area of specialization is Public Administration are re-quired to take UST 802 in lieu of UST 801

The dissertation demonstrates the student's ability to plan and carry through to successful completion a comprehensive research project. The dissertation should contribute to society's knowledge about the area of specialization chosen. Students receive their degrees from the university at which they defend their dissertations.

Additional information may be obtained from:

Graduate Programs Advisor
Maxine Goodman Levin College of Urban Affairs
Cleveland State University
Cleveland, Ohio 44115
Telephone: (216) 523-7522

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### environmental studies





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### Master of Arts in Environmental Studies

### **College of Urban Affairs**

Robert Simons, M.A.E.S.

Urban Affairs 231 (216) 687-2136 urban.csuohio.edu/~ustweb/maes.html

#### **FACULTY**

**Professors:** Assistant Professor:

William Bowen Nancy Meyer-Emerick Sanda Kaufman

Dianne Rahm Affiliated Faculty:

Program Director Heidi Gorovitz-Robertson,

Michael Tevesz

Associate Professor, College of Law
Mark A. Tumeo, Professor,

Associate Professor:

Departments of Biological,

Geological, and Environmental Sciences,

Wendy Kellogg Civil and Environmental Engineering,

and Urban Studies

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#### INTRODUCTION

The Master of Arts in Environmental Studies, housed in the Department of Urban Studies, prepares students for careers in environmental policy and management through a broad, interdisciplinary course of study. The program is one of three interdisciplinary degrees in the University's Environmental Academic Studies Program coordinated through the Center for Environmental Science, Technology, and Policy.

The development of human institutions, organizations, and behaviors that restore and protect the environment requires careful study of both natural and human systems and their interdependence. This task is at the core of the graduate Environmental Studies program.

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### FINANCIAL AID

The Levin College provides graduate assistantships on a competitive basis to full-time students. Although the deadline for receipt of graduate assistantship applications is March 1, fullest consideration is given to applicants who have submitted all application materials for the M.A.E.S. program by February 1.

The College also offers paid internships and tuition grants to eligible degree-seeking students. Application forms are available from the Levin College Office of Student Services. (See also the section on Expenses and Financial Aid: Graduate Assistantships in the front of this Catalog.)

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### **CAREER OPPORTUNITIES**

Students in the environmental studies program develop skills that are in high demand. These skills are particularly suited to bridging the gap between science and policy. Students will become leaders in their communities' efforts to protect and/or restore environmental quality. Environmental studies graduates work in organizations such as environmental protection agencies; nonprofit environmental advocacy organizations; environmental education organizations; municipal governments; regional planning and resource agencies; and state and national parks and recreation areas.

The Levin College through the Department of Urban Studies, the Office of Student Services, and the faculty provides a variety of career-planning services

to help students and graduates find employment related to their programs of study. Current job postings are maintained in the Office of Student Services and on the College web site. Cleveland State's Career Services Center also provides graduate students and alumni with career advice and career development assistance, including resume review. (See the section on Campus Services and Program: Career Services in the front of this Catalog).

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### **ADMISSION REQUIREMENTS**

In addition to meeting Graduate College admission requirements, applicants to the graduate Environmental Studies program must:

- 1. Have a minimum undergraduate grade-point average of 3.00 or equivalent from an accredited institution;
- 2. Submit scores from the General portion of the Graduate Record Examination (GRE).
- 3. Submit two letters of recommendation.

Non-native English speakers must demonstrate English-language proficiency, demonstrated by a minimum score of 525 on the TOEFL; a minimum score of 85 on the Michigan Test.

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### **DEGREE REQUIREMENTS**

The M.A. in Environmental Studies program includes a minimum of 36 credits, including core competency courses, a 12-credit core curriculum within the major, 12 elective credits, and an exit project.

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### **CORE COMPETENCY COURSES**

### **Technology**

CVE 450 Environmental Technology (three credits) EVS 506 Ecosystem Science (three credits) or

PHY 570 Environmental Physics (four credits)

### **Technical Writing**

**ENG 509** Technical Writing (two credits)

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### MAJOR CORE CURRICULUM

<u>UST 595</u> Environmental Seminar (one credit)\*

<u>UST 601</u> Applied Quantitative Reasoning I (four credits)

<u>UST 652</u> Environmental Policy and Administration (four credits)

LAW 671 Environmental Law (three credits)

\*cross-listed with CVE 595 and BIO 595

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### ADDITIONAL COURSE WORK

In addition to the above courses, students must complete 12 additional credit hours, selected from the courses below.\*

**UST 501** Fundamentals of Applied Reasoning

UST 550 Environmental and Human Affairs

**UST 553** Environmental Planning

<u>UST 642</u> Introduction to Geographic Information Systems (GIS)

UST 643 Advanced GIS

**UST 644** GIS Capstone Seminar

UST 651 Environmental Finance and Capital Budgeting

\*All electives are four credit courses.

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### **EXIT PROJECT**

Every student must register for four credits of exit project course work (<u>UST</u> <u>698</u>) and successfully complete an applied research report, an original project

design, a policy analysis and evaluation paper, or a related project. Before registering for exit project credit, the student and his or her advisor select a proposed exit project. The student must complete a Permission Form and obtain the required signatures prior to registering for the project.

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### JD/MAES PROGRAM

The combined curriculum leading to the degrees of Juris Doctor and Master of Arts in Environmental Studies is designed to permit the student to complete both degrees over four years instead of the five years that would normally be required to complete the two degrees separately.

Entry into the Joint Degree Program can occur in one of two ways. Applicants who are not currently enrolled in either the J.D. or the M.A. in Environmental Studies degree program must apply for admission to both the College of Graduate Studies and the College of Law concurrently and follow the normal procedures of the respective colleges. Application for admission must be specifically for the Joint Degree Program. Students who enroll in this manner spend their first year taking courses exclusively in the J.D. program and their second year taking courses exclusively in the M.A. in Environmental Studies program. In the third and fourth years students take courses in both degree programs. Applicants who are currently enrolled in either the J.D. or the M.A. in Environmental Studies degree program must apply for admission to the other degree program prior to the completion of 60 credit hours in the J.D. program or 24 credit hours in the M.A. in Environmental Studies program. Students who enroll in this manner are advised as to how to schedule the remainder of their courses in the Joint Degree Program. Under no circumstances will a student be allowed to take more than eight years to complete the combined programs.

The Joint Degree Program requires a total of four academic years. The Juris Doctor requirements are fulfilled by the completion of 80 credit hours of work in the College of Law, including all required courses, and the transfer of eight credit hours from courses taken in the Master of Arts in Environmental Studies program. The Master of Arts in Environmental Studies requirements are fulfilled by the completion of 28 credit hours of courses in the College of Urban Affairs, including all required courses, and the transfer of the equivalent of eight credit hours from courses taken in the College of Law. In order to ensure that the degree requirements of both programs are fully maintained, while at the same time permitting the saving of a full academic year, students who pursue the Joint Degree Program are not permitted to take courses outside either the College of Law or the Master of Arts in Environmental Studies program for credit toward either degree.

All requirements for both programs must be completed before either degree is awarded. If a student elects to receive one degree before completing the requirements of the other degree, forfeiture of some transfer credit will result and the student will no longer be in the Joint Degree Program.

Submit College of Graduate Studies application materials to the Graduate Admissions Office. Contact the College of Law regarding law application procedures.

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### Master of Public Administration

### **College of Urban Affairs**

Urban Affairs 231 (216) 687-2136 urban.csuohio.edu/~ustweb/mpa.htm

### THE FACULTY

### **Professors:**

Richard D. Bingham
William M. Bowen
Edward W. Hill
Sanda Kaufman
Sylvester Murray
Dianne Rahm
Mark Rosentraub, *Dean*Michael W. Spicer
Camilla Stivers

### **Associate Professors:**

Jennifer Alexander
David R. Elkins,
Political Science
Lawrence F. Keller
Brenda Stevenson Marshall,
Health Care Administration
Alan C. Weinstein,
Director, J.D./ M.P.A. Program

### **Assistant Professor:**

Nancy Meyer-Emerick

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### **ACCREDITATION**

The Master of Public Administration program is accredited by the National Association of Schools of Public Affairs and Administration (NASPAA). Additionally, the Maxine Goodman Levin College of Urban Affairs, which houses the M.P.A. program, has been designated a Center of Excellence in Public Administration by Cleveland State University. The M.P.A. program also was ranked second in the nation by U.S. World and News Report in the area of city management/urban policy.

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### **MISSION**

The Master of Public Administration program is committed to nationally recognized excellence in public administration education and research, to development of leadership in government, public service for solutions to urban problems, and to an enhanced understanding of public policy and management in a global society. Through its activities, the Master of Public Administration program supports the educational, research, and public service missions of the Maxine Goodman Levin College of Urban Affairs and Cleveland State University.

In order to advance intellectual and administrative leadership in public administration, the M.P.A. program will:

- Prepare students to assume the challenges of public service by providing them with a foundation in general public administration and specialized skills grounded in one of the program's areas of expertise.
- Discover, construct, interpret, and disseminate knowledge and understanding about the practice of public administration and affairs.
- Address the particular needs of urban public policy issues.
- Serve the region, the State of Ohio, the nation, and the wider global community by providing intellectual resources and applying knowledge.

The Master of Public Administration program is interdisciplinary, drawing on the faculties of the James J. Nance College of Business Administration, the Levin College, and the Department of Political Science in the College of Arts and Sciences. The program is housed in the Levin College. The principal objective of the program is to prepare its graduates for administrative positions in government, nonprofit, and public service organizations. The program

provides a broad educational base as well as specific administrative techniques as preparation for positions carrying administrative responsibility. The program is designed both for in-service students and recent college graduates seeking careers in government and public service organizations. Most courses are offered in the evening and on weekends, allowing students to take classes after work hours.

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### **RESEARCH UNITS**

Students have opportunities to work with the faculty and staff in the research, public service, and training centers in the Levin College. See the Educational Resources section of this Catalog for information on the Levin College facilities.

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### **COMPUTER FACILITIES**

In order to promote computer literacy and to provide computer-based academic resources, the Levin College maintains two student computer labs with a total of 49 Pentium II PCs running Windows 2000. The computer labs, located in UR 39 and UR 40, offer software applications for word processing, spreadsheet analysis, database, computer-aided presentation, Geographic Information Systems (GIS), ArcInfo, Internet access, and statistical analysis. The labs provide access to laser printers for high-quality black-and-white output, a color laser printer for GIS maps, and a color scanner for capture of graphics. Each lab is equipped with a permanently mounted LCD projector for teaching computer-based classes. Any student enrolled in a Levin College program or class may apply for a computer lab account and use the labs during hours in which the College's building is open. In addition, Levin College lab account holders are provided with disk space on the networked server for conveniently storing class work; an e-mail account for communicating with people on campus and around the world; and disk space for creating personal web pages. The Interactive Media Lab (IML) is available for production of DVDs, CD-ROMs, video/audio streams, and advanced graphics. Digital video/audio capture equipment is available. The IML is equipped with Apple Macintosh G4 dual processor computers and a Quick Time streaming server. Additional computing information may be found at the College web site at www.urban. csuohio.edu.

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#### **CAREER INFORMATION**

The Levin College through the Office of Student Services and the faculty provides a variety of services related to career planning to help students and graduates find employment related to their program of study. Current job postings are maintained in the Office of Student Services and on the College web site. Cleveland State's Career Services Center also provides graduate students and alumni with career advice and career development assistance, including resume review. (See the section on Campus Services and Programs: Career Services in the front of this Catalog).

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#### FINANCIAL ASSISTANCE

The Levin College provides graduate assistantships on a competitive basis to full-time students. Although the deadline for receipt of graduate assistantship applications is March 1, fullest consideration is given to applicants who have submitted all application materials for the M.P.A. program by February 1.

The College also offers paid internships and tuition grants to eligible degree-seeking students. Application forms are available from the Levin College Office of Student Services. (See also the section on Expenses and Financial Aid: Graduate Assistantships in the front of this Catalog.)

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#### ADMISSION INFORMATION

Applicants to the Master of Public Administration program must meet the minimum requirements established by the College of Graduate Studies and the M.P.A. program faculty. The general requirements for unconditional admission are:

- 1. An undergraduate grade-point average of 3.00 or better.
- 2. Completion of the Graduate Record Examination (GRE) General Test. Students with an advanced degree from an accredited college or university may be exempted from this requirement.
- 3. Two letters of recommendation.

Submit all application materials to the Graduate Admissions Office.

Applicants who do not meet minimum grade-point requirements may be considered for probationary admission if the undergraduate grade-point average is below 3.00 but GRE test scores are at the 50th percentile or above.

Students admitted on a probationary basis must take two core M.P.A. courses, one of which is PAD 601, and receive a B or better in each course before being allowed to continue in the program.

Students admitted to the program who have previously taken M.P.A. core courses as Non-Degree students will be allowed to apply those courses to fulfill requirements of the program if the grade obtained in each course is a B or better.

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# PROGRAM REQUIREMENTS

The curriculum for the M.P.A. program consists of 43 to 46 credit hours of study depending on the method of degree completion. The program is divided into core courses, a specialization, electives, and an internship or research project.

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#### **CORE COURSES**

The core of the M.P.A. curriculum (20 credit hours) is required of all students and consists of the following:

PAD 600 Introduction to Public Administration

PAD 601 Applied Quantitative Reasoning I or

PSC 601 Research Methods and Statistics

PAD 603 Public Finance and Economics

PAD 604 Organizational Behavior

PSC 605 Public Administration and the Political Process

Students in the Economic Development track must also take PAD 602 Applied Quantitative Reasoning II.

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#### AREAS OF SPECIALIZATION

All students complete a minimum of 12 credit hours in an area of specialization except for the General Public Management option (three courses or nine credit hours minimum). The three areas of specialization and related options are listed below. See the Graduate Programs Advisor for specific curriculum plans.

# 1. Public Management

General Public Management option Nonprofit Management option Public Safety Management option

# 2. Economic Development

#### 3. Health Care Administration

Public Health Care option Long-Term Care Administration option

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#### **ELECTIVE CREDIT**

All students are required to take elective courses chosen with the approval of the Academic Coordinator of their track specialization. Depending on the student's chosen track and method of degree completion, the combined hours of core, track, and electives must be at least 41 credit hours. The electives are designed to enhance current skills, to fill gaps in substantive areas, or to develop an additional concentration. For example, students may take additional courses in Human Resources Management, Public Finance and Budgeting, Urban Planning, or Environmental Policy. Public Works Management students may choose to take courses in Civil Engineering. Students in the Health Care Specialization may emphasize Public Health Management or Long-Term Care. Completion of the option in Long-Term Care Administration can be used to fulfill the educational requirements for licensure of the State of Ohio Board of Examiners of Nursing Home Administrators.

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# INTERSHIP/RESEARCH

The final component of the degree program is completion of a minimum three-

credit internship or a two-credit research project. The internship is designed for students who have not had previous administrative experience; the research project is intended for experienced mid-career students. However, all students are required to complete a 300-hour internship unless they receive a waiver from the M.P.A. Program Director. The Levin College provides placement assistance to students seeking internships.

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#### THE JD/MPA PROGRAM

The combined curriculum leading to the degrees of Juris Doctor and Master of Public Administration is designed to permit the student to complete both degrees over four years instead of the five years that would normally be required to complete the two degrees separately.

Entry into the Joint Degree Program can occur in one of two ways. Applicants who are not currently enrolled in either the J.D. or the M.P.A. degree program must apply for admission to both the College of Graduate Studies and the College of Law concurrently and follow the normal procedures of the respective colleges. Application for admission must be specifically for the Joint Degree Program. Students who enroll in this manner spend their first year taking courses exclusively in the J.D. program and their second year taking courses exclusively in the M.P.A. program. In the third and fourth years students take courses in both degree programs. Applicants who are currently enrolled in either the J.D. or the M.P.A. degree program must apply for admission to the other degree program prior to the completion of 60 credit hours in the J.D. program or 28 credit hours in the M.P.A. program. Students who enroll in this manner are advised as to how to schedule the remainder of their courses in the Joint Degree Program. Under no circumstances will a student be allowed to take more than eight years to complete the combined programs.

The Joint Degree Program requires a total of four academic years. The Juris Doctor requirements are fulfilled by completion of 80 credit hours of work in the College of Law, including all required courses, and the transfer of eight credit hours from courses taken in the Master of Public Administration program. The Master of Public Administration requirements are fulfilled by completion of 32 credit hours of courses in the College of Urban Affairs, including all required courses, and the transfer of the equivalent of eight credit hours from courses taken in the College of Law. In order to ensure that the degree requirements of both programs are fully maintained, while at the same time permitting the saving of a full academic year, students who pursue the Joint Degree Program are not permitted to take courses outside either the College of Law or the Master of Public Administration program for credit toward either degree.

All requirements for both programs must be completed before either degree is awarded. If a student elects to receive one degree before completing the requirements of the other degree, forfeiture of some transfer credit will result and the student will no longer be in the Joint Degree Program.

Submit College of Graduate Studies application materials to the Graduate Admissions Office. Contact the College of Law regarding law application procedures.

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arts and humanities

business administration

education

engineering

health professions

natural sciences

social and behavioral

sciences

urban affairs

CERTIFICATE AREAS

ADDENDA

urban affairs:

# urban planning, design, and development





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THE JD/MUPDD PROGRAM

# Master of Urban Planning, Design, and Development

# **College of Urban Affairs**

Urban Affairs 231 (216) 687-2136 urban.csuohio.edu/~ustweb/mupdd.htm

#### THE FACULTY

#### **Professors:**

Richard D. Bingham
Edward W. Hill
Sanda Kaufman
W. Dennis Keating, Associate
Dean,
Instruction and Research
Norman Krumholz
Robert A. Simons, M.U.P.D.D.
Program Director
Alan C. Weinstein, Director,
Law

# **Associate Professors:**

and Public Policy Program

Mittie Olion Chandler

#### **Assistant Professors:**

Brian Mikelbank

#### **Affiliated Faculty:**

William M. Bowen, *Professor*, Cleveland State University Nancy Meyer-Emerick, *Assistant* Professor, Cleveland State University Michael W. Spicer, *Professor*, Cleveland State University Wendy A. Kellogg

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#### **INTRODUCTION**

The Master of Urban Planning, Design, and Development (M.U.P.D.D.) program integrates planning, design, and development into one course of study. It is accredited by the Planning Accreditation Board. Urban planning, urban design, and urban real estate development are featured components of the planning core curriculum. The course of study focuses on the theory, skills, and practical experience needed for the transformation and revitalization of industrialized urban cities and the regions in which they are located.

The mission statement and goals of the Master Of Urban Planning, Design, and Development program are:

- To educate students to become thoughtful urban planning generalists, with distinctive technical competence in an area of practice, who can positively affect the built urban environment and the well being of individuals who live in restructuring urban regions.
- To offer a range of specializations including community and neighborhood development, economic development, real estate development and finance, environmental planning, and geographic information systems.
- To provide a broad educational experience including experiential learning, internships, guest speakers, adjunct practitioner faculty, practica, research assistantships, and participatory and client-based projects that provide service to the community; and to periodically assess status of imparted skills, knowledge, and values.
- To recruit, retain, graduate, and facilitate placement of an inclusive student body in the field of planning.
- To maintain diversity among the student body and permanent faculty, to employ proactive recruitment strategies, and to conduct periodic internal assessment to assess the status of the program toward achieving its goals.

This graduate-level training in urban planning offers students the opportunity to pursue careers in city or regional planning, housing and neighborhood development, real estate finance and development, economic development,

environmental planning, and geographic information systems (GIS). Courses are designed to train new planners in the latest techniques and theories and to upgrade the skills of existing planners. The program is structured to accommodate both full-time students and working part-time students. Most required classes are offered in the evenings, with some courses offered during summer sessions and on weekends.

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#### FACULTY RESEARCH AND PUBLICATIONS

Members of the Urban Planning, Design, and Development faculty have wideranging research interests, including community development, conflict resolution, economic development, historic preservation, housing, land use, neighborhood development, environmental studies, and real estate. They have published in the leading journals in these fields.

M.U.P.D.D. faculty are active members of professional organizations such as the American Planning Association, the American Institute of Certified Planners, the American Institute of Architects, the Urban Land Institute, and the American Public Works Association.

#### **Research Units**

Students have opportunities to work with the faculty and staff in the research, public service, and training centers in the Levin College. See the Educational Resources section of this Catalog for information on the Levin College facilities.

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#### **COMPUTER FACILITIES**

In order to promote computer literacy and provide computer-based academic resources, the Levin College maintains two student computer labs with a total of 49 Pentium II PCs running Windows 2000. The computer labs, located in UR 39 and UR 40, offer software applications for word processing, spreadsheet analysis, database, computer-aided presentation, Geographic Information Systems (GIS), ArcInfo, Internet access, and statistical analysis. The labs provide access to laser printers for high-quality black-and-white output, a color laser printer for GIS maps, and a color scanner for capture of graphics. Each lab is equipped with a permanently mounted LCD projector for teaching computer-based classes. Any student enrolled in a Levin College program or

class may apply for a computer lab account and use the labs during hours in which the College's building is open. In addition, Levin College lab account holders are provided with disk space on the networked server for conveniently storing class work; an e-mail account for communicating with people on campus and around the world; and disk space for creating personal web pages. The Interactive Media Lab (IML) is available for production of DVDs, CD-ROMs, video/audio streams, and advanced graphics. Digital video/audio capture equipment is available. The IML is equipped with Apple Macintosh G4 dual processor computers and a Quick Time streaming server. Additional computing information may be found at the College web site at www.urban. csuohio.edu.

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#### **CAREER INFORMATION**

The M.U.P.D.D. program provides advanced training for recent college graduates and incumbent professionals. This training offers students the opportunity to pursue and advance careers in city and regional planning, real estate, economic development, housing, public works, neighborhood development, and related fields. Employment opportunities for planners exist in the nonprofit, public, and private sectors.

The Levin College through the Office of Student Services and the faculty provides a variety of services related to career planning to help students and graduates find employment related to their program of study. Current job postings are maintained in the Office of Student Services and on the College web site. Cleveland State's Career Services Center also provides graduate students and alumni with career advice and career development assistance, including resume review. (See the section on Campus Services and Programs: Career Services in the front of this Catalog).

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#### FINANCIAL ASSISTANCE

The M.U.P.D.D. program provides graduate assistantships to qualified full-time students. The deadline for receipt of assistantship applications is March 1. If applying for a graduate assistantship, all degree-seeking application materials must be received by February 1. A limited number of paid internships and tuition grants also are available. Application forms are available from the Levin College advising or placement office. (See also the section on Expenses and Financial Aid: Graduate Assistantships in the front of this Catalog.)

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#### ADMISSION INFORMATION

Successful applicants to the M.U.P.D.D. program must fulfill the requirements established by the College of Graduate Studies and the M.U.P.D.D. faculty. The general requirements for Regular admission are:

- 1. An undergraduate grade-point average of 3.00 or better.
- 2. Completion of the Graduate Record Examination (GRE) General Test, scoring at the 50th percentile or above. Students with an advanced graduate degree from an accredited college or university may be exempted from this requirement.
- 3. Two letters of recommendation with the completed application. At least one of the recommendations should come from a faculty member familiar with the applicant's academic work. Submission of other materials, such as a personal statement, is optional.

Applicants who do not meet grade-point or test-score requirements may be considered for probationary admission if the undergraduate grade-point average is below 3.00, but test scores are at the 50th percentile or above, or at the discretion of the M.U.P.D.D. admissions director.

Students admitted on a probationary basis must take three core PDD courses, one of which is PDD 601, and maintain a B average before being allowed to continue in the program. Students receiving a third grade below a B are subject to dismissal.

Non-Degree students seeking admission also are evaluated on their M.U.P.D. D. core courses. Students must receive a B or better in each course in order to be admitted to the M.U.P.D.D. program. Up to 16 credits earned as a Non-Degree student can be accepted.

International students should refer to the Admission to the Graduate College section in this Catalog for additional information.

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#### PROGRAM REQUIREMENTS

The curriculum of the M.U.P.D.D. includes 12 four-credit classes for a total of

48 semester hours. The planning core consists of eight classes (32 credits), leaving four classes (16 credits) for electives. Five specialization fields are offered, each of which requires three or more classes to complete. Students may choose to complete an exit project or thesis. Internships also are available for elective credit. A full-time student can complete the program in two academic years.

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# **REQUIRED COURSES**

Students complete 32 credit hours in core courses.

#### **General Core Courses**

Applied Quantitative Reasoning I
Public Finance and Economics
Urban Spatial Structures
Introduction to Urban Planning
Urban Design Seminar
Planning Law
Urban Development Process/Market Analysis
Capstone Studio

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#### **ELECTIVES**

Electives Students complete a minimum of 12 credit hours in elective courses or in an optional specialization. Available concentrations are:

# 1. Housing and Neighborhood Development

Select three of the following:

PDD 563	Housing Analysis			
PDD 623	Urban Development Finance and Applied Project			
(Prerequisites:				
PDD 603	and <u>PDD 610</u> )			
PDD 660	Neighborhood Planning			
PDD 661	Legal Developments in Housing			
PDD 662	Urban Housing Policy			

# 2. Economic Development

Required:

PDD 620 Economic Development: Plans and Strategies or

PDD 623 Urban Development Finance and Applied Project

Select two of the following:

PDD 572 Conflict Management

PDD 615 Economic Development and Budgetary Policy

PDD 621 Local Labor Market Analysis

PDD 622 Economic Development Policy

PDD 624 Anti-Poverty Policy

PDD 625 Strategic Thinking

PDD 626 Workforce Development

PDD 627 Urban Tourism, the Urban Core, and Economic Development

#### 3. Environment

Required:

PDD 553 Environmental Planning I or

PDD 653 Environmental Planning II

Select two of the following:

PDD 550 Environment and Human Affairs

PDD 551 Environment Finance and Capital Budgeting

PDD 552 Environmental Policy and Administration

# 4. Geographic Information Systems

Required:

PDD 642 Introduction to Geographic Information Systems

PDD 643 Advanced GIS

PDD 644 GIS Capstone Seminar

# 5. Real Estate Development and Finance

Required:

PDD 623 Urban Development Finance

FIN 610 Real Estate Finance

FIN 612 Real Estate Investments

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#### **ADDITIONAL ELECTIVES**

Students may take appropriate electives in consultation with their academic advisor. Relevant courses include:

- PDD 503 Cartography and Graphics
- PDD 512 Managing Urban Diversity
- PDD 572 Conflict Management
- PDD 575 Canadian Studies
- PDD 576 Historic Preservation
- PDD 577 Regional Issues
- PDD 578 Sacred Landmarks
- PDD 602 Applied Quantitative Reasoning II
- PDD 606 Evolution of Human Settlements
- PDD 616 Systems and Processes of Policy Development
- PDD 640 Public Works Management I
- PDD 641 Public Works and Urban Service Delivery
- PDD 645 Public Works Management II
- PDD 671 Advanced Urban Design
- PDD 674 Central City Planning

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#### **EXIT PROJECT OR THESIS**

(four credits)

Neither an exit project nor a thesis is required. However, M.U.P.D.D. students may choose to complete either as an elective option. For an exit project, the student selects a faculty advisor from the M.U.P.D.D. faculty. Students must complete the Exit Project Approval Form and obtain all signatures before registering for Exit Project credit (PDD 698). For the thesis option, students select a thesis advisor from the M.U.P.D.D. faculty. In conjunction with the advisor, the student selects a thesis committee, which consists of at least three individuals, all of whom must be members of the Graduate Faculty. The committee's function is to advise and assist the student in writing and research, and to formally approve the thesis once it has been successfully defended. (See the section on Thesis/Dissertation in this Catalog.)

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# **INTERSHIPS**

(Variable credit)

An internship is not required. However, students without planning or related work experience are encouraged to seek an internship placement. Paid and unpaid internships are arranged through the Recruitment and Placement Office. Interested students may receive elective credit for internship work.

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#### THE JD/MUPDD PROGRAM

The combined curriculum leading to the degrees of Juris Doctor and Master of Urban Planning, Design, and Development is designed to permit the student to complete both degrees over four years instead of the five years that would normally be required to complete the two degrees separately.

Entry into the Joint Degree Program can occur in one of two ways. Applicants who are not currently enrolled in either the J.D. or the M.U.P.D.D. degree program must apply for admission to both the College of Graduate Studies and the College of Law concurrently and follow the normal procedures of the respective colleges. Application for admission must be specifically for the Joint Degree Program. Students who enroll in this manner spend their first year taking courses exclusively in the J.D. program and their second year taking courses exclusively in the M.U.P.D.D. program. In the third and fourth years, students take courses in both degree programs. Applicants who are currently enrolled in either the J.D. or the M.U.P.D.D. program must apply for admission to the other degree program prior to the completion of 60 credit hours in the J. D. program or 28 credit hours in the M.U.P.D.D. program. Students who enroll in this manner are advised as to how to schedule the remainder of their courses in the Joint Degree Program. Under no circumstances will a student be allowed to take more than eight years to complete the combined program.

The Joint Degree Program requires a total of four academic years. The Juris Doctor requirements are fulfilled by completion of 79 credit hours of work in the College of Law, including all required courses, and the transfer of eight credit hours from courses taken in the M.U.P.D.D. program. The Master of Urban Planning, Design, and Development requirements are fulfilled by completion of 40 credit hours of courses in the College of Urban Affairs, including all required courses, and the transfer of the equivalent of eight credit hours from courses taken in the College of Law. In order to ensure that the degree requirements of both programs are fully maintained, while at the same time permitting the saving of a full academic year, students who pursue the joint degree program are not permitted to take courses outside either the

College of Law or the Master of Urban Planning, Design, and Development program for credit toward either degree. All requirements for both programs must be completed before either degree is awarded. If a student elects to receive one degree before completing the requirements of the other degree, forfeiture of some transfer credit will result and the student will no longer be considered to be in the Joint Degree Program.

Submit College of Graduate Studies application materials to the Graduate Admissions Office. Contact the College of Law regarding law admission procedures.

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arts and humanities

business administration

education

engineering

health professions

natural sciences

social and behavioral

sciences

urban affairs

CERTIFICATE AREAS

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# m.s. in urban studies





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[THESIS]
[EXIT PROJECT]

**DUAL DEGREE PROGRAM** 

# Master of Science in Urban Studies

# **College of Urban Affairs**

Urban Affairs 231 (216) 687-2136 urban.csuohio.edu/~ustweb/msus.htm

#### THE FACULTY

# **Professors:**

Richard D. Bingham
William M. Bowen
Edward W. Hill
Sanda Kaufman
W. Dennis Keating, Associate
Dean, Instruction and
Research,
M.S.U.S. Program Director
Norman Krumholz
Helen Liggett
Sylvester Murray

Dianne Rahm Mark Rosentraub, Dean Robert A. Simons

#### **Assistant Professors:**

Nancy Meyer-Emerick Brian Mikelbank

# **Levin Scholars:**

David O. Meeker, Jr. (1978-79) (deceased) Wolf Von Eckardt (1979-80) (deceased) Sarah Short Austin (1980-81) Martin Rein (1981-82) Paul R. Porter (1982-84) Edgar A. Rose (1982-84) Michael W. Spicer Wilbur R. Thompson (1985-86)

Roberta Steinbacher Phillip Clay (1987-88)

David C. Perry (1989-91)

**Associate Professors:** James M. Banovitz (1991-93)

Robert Waste (1994-95) Camilla Stivers (1997-2002)

Jennifer Alexander

Virginia O. Benson Mittie Olion Chandler

Lawrence F. Keller

Wendy A. Kellogg Alan C. Weinstein, Director,

Law and Public Policy

Program

Michael Wells

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# Urban Scholar:

Charles Goodsell (1991-92)

#### INTRODUCTION

The program offers advanced training in urban studies to recent undergraduate degree recipients, practitioners already working in the field, and returning students who wish to pursue careers in not-for-profit or private service.

No single discipline adequately covers the broad spectrum of knowledge that the modern urban problem solver needs. Thus, the program draws on many disciplines to broaden and extend the student's knowledge and expertise through a combination of specially developed urban core courses, research seminars, and electives. It is an interdisciplinary program drawing on resources and faculty from a variety of disciplines, colleges, and departments. Classroom knowledge is augmented by internships and other experiential training that add scope to the program.

The objective of the program is to educate students with a grounding in theoretical perspectives and applied research methods useful for effective problem definition and problem solving. These skills enhance organizational capacity in attempting to define, analyze, and solve urban problems. Special emphasis is placed on economic development, organizational leadership, law and public policy, urban ecology, and policy analysis.

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#### FACULTY RESEARCH AND PUBLICATIONS

Urban Studies faculty members conduct research in the areas of housing, economic development, environmental policy and planning, historic preservation, neighborhood and community development, social policy, conflict resolution, public finance, public works, and urban management.

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#### RESEARCH UNITS

Students have opportunities to work with the faculty and staff in the research, public service, and training centers in the Levin College. See the Educational Resources section of this Catalog for information on the Levin College facilities.

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#### **COMPUTER FACILITIES**

In order to promote computer literacy and provide computer-based academic resources, the Levin College maintains two student computer labs with a total of 49 Pentium II PCs running Windows 2000. The computer labs, located in UR 39 and UR 40, offer software applications for word processing, spreadsheet analysis, database, computer-aided presentation, Geographic Information Systems (GIS), ArcInfo, Internet access, and statistical analysis. The labs provide access to laser printers for high-quality black-and-white output, a color laser printer for GIS maps, and a color scanner for capture of graphics. Each lab is equipped with a permanently mounted LCD projector for teaching computer-based classes. Any student enrolled in a Levin College program or class may apply for a computer lab account and use the labs during hours in which the College's building is open. In addition, Levin College lab account holders are provided with disk space on the networked server for conveniently storing class work; an e-mail account for communicating with people on campus and around the world; and disk space for creating personal web pages. The Interactive Media Lab (IML) is available for production of DVDs, CD-ROMs, video/audio streams, and advanced graphics. Digital video/audio capture equipment is available. The IML is equipped with Apple Macintosh G4 dual processor computers and a Quick Time streaming server. Additional computing information may be found at the College web site at www.urban. csuohio.edu.

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#### FINANCIAL ASSISTANCE

The Levin College provides graduate assistantships on a competitive basis to full-time students. Although the deadline for receipt of graduate assistantship applications is March 1, fullest consideration is given to applicants who have submitted all application materials for the M.S.U.S. program by February 1.

The College also offers paid internships and tuition grants to eligible degree-seeking students. Application forms are available from the Levin College Office of Student Services. (See also the section on Expenses and Financial Aid: Graduate Assistantships in the front of this Catalog.)

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#### **CAREER INFORMATION**

The Levin College through the Department of Urban Studies, the Office of Student Services, and the faculty provides a variety of services related to career planning to help students and graduates find employment related to their program of study. Current job postings are maintained in the Office of Student Services and on the College web site. Cleveland State's Career Services Center also provides graduate students and alumni with career advice and career development assistance, including resume review. (See the section on Campus Services and Programs: Career Services in the front of this Catalog ).

#### **Careers in Urban Affairs**

Graduates of the M.S. program in Urban Studies hold a variety of positions in the public, private, and nonprofit sectors. The alumni roster includes elected officials, directors of local development corporations and other nonprofit organizations, environmental policy analysts, real estate personnel, and program planners and managers working in a broad spectrum of urban organizations.

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#### **ADMISSION INFORMATION**

Successful applicants to the Master of Science in Urban Studies program must fulfill the requirements established by the College of Graduate Studies and the Master of Science in Urban Studies faculty. The general requirements for Regular admission are:

- 1. An undergraduate grade-point average of 3.00 or better.
- 2. Satisfactory performance on the Graduate Record Examination (GRE) General Test.

Applicants who do not meet grade-point or test-score requirements may be considered for admission on a probationary basis if the undergraduate grade-point average is below 3.00, but test scores are at the 50th percentile or above. These students must complete prescribed courses with a grade-point average of 3.00 or better before being allowed to continue in the program.

International students should refer to the Admission to the Graduate College section in this Catalog for additional information.

Applicants must submit two letters of recommendation. At least one of the recommendations should come from a faculty member familiar with the applicant's academic work. Submit all materials to the Graduate Admissions Office.

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# **DEGREE REQUIREMENTS**

A minimum of 36 credit hours is needed to complete degree requirements. Students must comply with all University requirements and must attain a 3.00 or better grade-point average.

Students are required to complete a common core curriculum and an area of specialization with the advice and consent of their faculty advisor.

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#### **CORE COURSES**

The core of the M.S. in Urban Studies curriculum (20 credit hours) is required of all students and consists of the following:

<u>UST 601</u> Applied Quantitative Reasoning I\*

<u>UST 602</u> Applied Quantitative Reasoning II\*

UST 606 Evolution of Human Settlements

Plus two of the following:

UST 603 Public Finance and Economics\*

**UST 605** Urban Spatial Structures\*

<u>UST 616</u> Systems and Processes of Policy Development

\*For those students specializing in Economic Development, the core consists of these courses and <u>UST 615</u> Economic Development and Budgetary Policy

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#### AREAS OF SPECIALIZATION

Students complete a minimum of three courses (12 credit hours) in an area of specialization to be chosen in consultation with an advisor. The areas of specialization are given below. See the Graduate Programs Advisor for specific curriculum plans.

- 1. Economic Development
- 2. Organizational Leadership
- 3. Urban Policy Analysis
- 4. Environment
- 5. Urban Services Administration
- 6. Law and Public Policy

The Levin College and the Cleveland-Marshall College of Law jointly sponsor the Law and Public Policy program. The program and its curriculum are recommended for law students and graduate students in urban affairs who are interested in public service careers and who wish to expand their understanding of legislative and administrative procedures, governmental decision making, and public policy development.

LAW 557 Legislation\* or
PSC 605 Public Administration and the Political Process
LAW 623 Administrative Law\* or
PAD 631 Law and Public Administration

\*See the College of Law Catalog for course descriptions.

Three experiential opportunities are offered. The Law and Public Policy Clinic introduces students to the legal and analytic tools needed in addressing public policy issues. The Washington and Columbus seminars allow students to observe public policy as it develops through the legislature and executive agencies.

UST 573 Columbus Seminar

UST 574 Washington Seminar

UST 670 Introduction to Law and Public Policy

<u>UST 683</u> Law and Public Policy Clinic (Prerequisite: UST 670)

Students may select courses in the areas of economic development, organizational leadership, urban policy analysis, environment, urban services administration, and law and public policy.

Those students whose needs are not met with one of the six areas of specialization listed above may design an individual program of study in consultation with their advisor and with the approval of the Program Director. Examples of individually designed programs of study include Housing, Neighborhood Development, and Comparative Urban Studies.

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#### **ELECTIVES**

The remainder of the program is composed of electives (up to three courses or 12 credits) and a thesis or exit project (four credits). Internships, independent research projects, and reading courses may be completed for elective credit.

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#### **INTERSHIP**

An internship is not required; however, students without related work experience are encouraged to seek an internship placement. Paid and unpaid internships are arranged through the Department of Urban Studies. Interested students may receive elective credit for internship work.

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# **EXIT REQUIREMENTS**

All candidates for the Master of Science in Urban Studies degree must complete a thesis or an alternative exit project. Generally, students may not register for thesis/exit project credit until they have completed the core courses and the required courses in the area of specialization.

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#### **THESIS**

Before registering for thesis credit, a student must select a thesis advisor from the Urban Studies faculty. In conjunction with the advisor, the student then selects a thesis committee. The committee consists of at least three members, all of whom must be members of the Graduate Faculty. The committee's function is to advise and assist the student in writing and research and to formally approve the thesis once it has been successfully completed.

Students selecting the thesis option should familiarize themselves with the regulations and procedures of the College of Graduate Studies. (See the section on Thesis/Dissertation in the front of this Catalog.)

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#### **EXIT PROJECT**

Before registering for exit project credit, a student must select an advisor, who will approve the student's proposed project and read the completed report. Students must complete the Exit Project Approval Form and obtain the required signature **prior** to registering for the project.

Students selecting the exit project option must successfully complete an applied research report, an original project design, a policy analysis and evaluation paper, or a similar project as approved by the advisor. The exit project must place the work in an academic context, including a comprehensive literature review and appropriate consideration of the theoretical roots of the particular professional application.

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# **DUAL DEGREE PROGRAM**

In 1998, a cooperative agreement was reached between the Levin College of Urban Affairs at Cleveland State University and the Department of Regional Development of Chung-Ang University in Seoul, Korea, to offer a dual Master of Science degree in Urban Studies/Urban and Regional Planning.

**Course of Study** 

Students who wish to spend the second year of the M.S.U.S. program in residence in Seoul, Korea, must apply to the M.S.U.S. Program Director for admission well in advance of the semester(s) of intended residence. Levin College students take Chung-Ang classes (three credit hours), which are accepted by Cleveland State toward the M.S.U.S. degree. They include the following courses:

Applied Statistics Survey Research Methods Public Economics Regional Economics

Elective courses include:

Urban and Regional Planning
Urban and Regional Policy
Urban Planning Methods
Community Development Methodology
Introduction to GIS
Urban History

Classes are taught in Korean; however, English textbooks are available and Chung-Ang faculty advise and tutor students in English.

Chung-Ang University will waive tuition. Students receive the M.S.U.S. degree from Cleveland State University and the Urban and Regional Planning degree from Chung-Ang University.

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Graduate Certificate in

Middle Childhood Science Education
(Information posted 6-17-03)

#### THE FACULTY

#### **Professors:**

Frank Johns Miron Kaufman

# **Associate Professors:**

Robert E. Bast Ruth Bombaugh

#### **Assistant Professors:**

Issaou Gado Tarun K. Mal

# **Lecturers:**

Jerry Reed-Mundell Alla Zilichikhis

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#### INTRODUCTION

The purpose of this program is to offer a certificate in middle childhood science to elementary certified teachers who have completed five or more years of teaching science at the middle school level.

With additional coursework, determined by the College of Education, these courses can be applied toward a middle childhood science license.

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#### **CAREER INFORMATION**

This program forms the core courses necessary for licensure in middle childhood science. Additional courses may be required to complete this licensure in full. Individuals desiring to complete the licensure program should consult the CSU Education Student Services advising office at (216) 687-4625 for further information.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular admission status may be admitted to the certificate program. Alternatively, the applicant must meet the graduate certificate admission requirements detailed in the Admissions section of this Catalog. With program permission, Non-Degree graduate students may enroll in the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

Credits earned for the certificate may apply toward a graduate degree as approved by the student's graduate program director and in keeping with the policies of the Graduate College.

Submit application materials to the Graduate Admissions Office.

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# **CERTIFICATE REQUIREMENTS**

(Students must complete the five courses listed below for a total of 24 credit hours)

BIO 580 - Biology Content for Middle School Teachers (5 credits)

CHM 580 - Chemistry for Middle School Teachers (5 credits)

EVS 580 - Environmental Geology for Middle School Teachers (5 credits)

PHY 593 - Conceptual Physics for Middle School Teachers (5 credits)

EDC 517 - Instructional Development in Science Education (4 credits)

See the College of Education and the Master of Science Descriptions sections of this Catalog for details on course listings.

#### For Further Information Contact:

Education Student Services Center Cleveland State University 2121 Euclid Avenue Rhodes Tower 1401

Cleveland, OH 44115 Phone (216) 687-4625 Fax (216) 687-9284 Return to top [ CATALOG SITE MAP] [ SITE MAP-TEXT ONLY] [ GRADUATE CATALOG HOME]



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Graduate Certificate in
Middle Childhood Mathematics Education
(Information posted 6-17-03)

#### THE FACULTY

#### **Associate Professor:**

Roland Pourdayood

#### **Assistant Professors:**

Joanne E. Goodell Naomi Klarreich Carol Phillips-Bey

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#### INTRODUCTION

The purpose of this program is to offer a certificate in middle childhood mathematics to elementary certified teachers who have completed five or more years of teaching math at the middle school level.

With additional coursework, determined by the College of Education, these courses can be applied toward a middle childhood mathematics license.

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#### **CAREER INFORMATION**

This program forms the core courses necessary for licensure in middle childhood mathematics. Additional courses may be required to complete this licensure in full. Individuals desiring to complete the licensure program should consult the CSU Education Student Services advising office at (216) 687-4625 for further information.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular admission status may be admitted to the certificate program. Alternatively, the applicant must meet the graduate certificate admission requirements detailed in the Admissions section of this Catalog. With program permission, Non-Degree graduate students may enroll in the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

Credits earned for the certificate may apply toward a graduate degree as approved by the student's graduate program director and in keeping with the policies of the Graduate College.

Submit application materials to the Graduate Admissions Office.

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#### **CERTIFICATE REQUIREMENTS**

(Students must complete the six courses listed below for a total of 24 credit hours)

MTH 526 - Numbers, Patterns, and Operations for Middle School Teachers (4 credits)

MTH 527 - Algebra and Functions for Middle School Teachers (4 credits)

MTH 528 - Geometry for Middle School Teachers (4 credits)

MTH 529 - Data Analysis and Probability for Middle School Teachers (4 credits)

MTH 530 - Conversational Calculus for Middle School Teachers (4 credits)

EDC 515 - Instructional Development in Mathematics Education (4 credits)

See the College of Education and the Master of Arts and Master of Science in Mathematics Course Descriptions sections of this Catalog for details on course listings.

# **For Further Information Contact:**

Education Student Services Center Cleveland State University 2121 Euclid Avenue Rhodes Tower 1401 Cleveland, OH 44115

Phone (216) 687-4625 Fax (216) 687-9284

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certificate programs:

# urban real estate development and finance

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# Urban Real Estate Development and Finance

# THE FACULTY

Robert A. Simons, Levin College of Urban Affairs James R. Webb, College of Business Administration

#### INTRODUCTION

The graduate certificate program in Urban Real Estate Development and Finance is offered jointly by the Maxine Goodman Levin College of Urban Affairs and the James J. Nance College of Business Administration. The program provides focused, hands-on experience in project-level real estate and real estate finance, investment, and valuation.

Courses are offered in the evening to accommodate working students. The 16-credit certificate may be earned in one year.

In addition to Cleveland State faculty, guest lecturers from the real estate community enhance the program by providing up-to-date examples of successful projects.

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#### **FACULTY RESEARCH**

Professor Simons specializes in environmental real estate issues including proximity influence and brownfields. Professor Webb specializes in income property investment and financing. Dr. Webb is the Executive Director of the American Real Estate Society.

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#### **CAREER INFORMATION**

A graduate certificate in Urban Real Estate Development and Finance is a valuable tool for current Cleveland State graduate students who want to enhance their academic program in the area of real estate. Professionals in the fields of real estate, real estate law, planning, economic development, banking, and architecture can enroll in the program to update and strengthen their knowledge and practice in urban real estate development and finance.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular status will be considered for admission to the certificate program. In addition, applicants must show evidence of:

- 1. The ability to do quality, professional-level work, and
- 2. Spreadsheet competency or the ability to learn quickly.

Prior to graduation, degree-seeking students must file a letter with the Levin College Graduate Programs Advisor stating their intent to complete requirements for the certificate. The letter must specify the expected date of completion of each course being applied toward the certificate.

Applicants who are not enrolled in a graduate degree program at Cleveland State must apply for graduate certificate admission. Certificate admission requirements are detailed in the Admissions section of this Catalog. In addition to meeting these admission requirements, certificate applicants must submit a current resume, and a one-page statement which outlines:

- 1. Educational objectives,
- 2. Career goals, and
- 3. Significant experience in real estate development.

With program permission, a Non-Degree graduate student may take the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

For additional information, contact the Levin College Graduate Programs Advisor at (216) 523-7522.

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# **CERTIFICATE REQUIREMENTS**

The 16-credit hour sequence includes courses from both the College of Urban Affairs and the College of Business Administration. The courses are:

PDD/UST 610 Urban Development Process/Market Analysis (four credits)

PDD/UST 623 Urban Development Finance and Applied Project (four credits)

FIN 610/710 Real Estate Finance (four credits)

FIN 612/712 Real Estate Investment (four credits)

Finance courses do not require sequencing, but the PDD/UST courses must be taken in numerical order.

See the <u>College of Business Course Descriptions</u> and the <u>Master of Urban Planning</u>, <u>Development</u>, and <u>Design</u> sections of this Catalog for details on courses.

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certificate programs:

# urban geographic information systems

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Urban Geographic Information Systems

THE FACULTY

**Assistant Professor:** Brian Mikelbank **Adjunct Assistant Professor:** Mark Salling

#### **INTRODUCTION**

The Maxine Goodman Levin College of Urban Affairs offers a certificate program in Urban Geographic Information Systems (GIS). The program is central to the College's mission to provide academic and professional education, expertise, and research capabilities to enhance the quality of life in urban communities.

#### **Career Information**

The certificate program offers a sequence of courses to professionals who wish to learn GIS technology to complement their careers in government, planning, environment, public works, and other urban agencies. The program provides a solid understanding of basic concepts, technical and institutional factors in GIS design and implementation, and applications of the technology in professional settings.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular admission status may be admitted to the certificate program. Alternatively, the applicant must meet the graduate certificate admission requirements detailed in the Admissions section of this Catalog. With program permission, non-degree graduate students may take the courses noted below, but non-degree graduate students can not earn a

University graduate certificate.

Submit application materials to the Graduate Admissions Office.

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# **CERTIFICATE REQUIREMENTS**

The certificate program consists of three courses. The introductory course approaches GIS as a tool to provide students with basic technical, analytical, and management skills that can be used in other courses or in the work setting. The course focuses on the principles and concepts of GIS and tools of spatial information analysis that result in recommending fast and efficient solutions to everyday problems. The two remaining courses are more advanced and apply GIS to policy issues.

# The required GIS courses are:

PAD/PDD/UST 642 Introduction to Geographic Information Systems (GIS) (4-0-4)

PAD/PDD/UST 643 Advanced GIS (4-0-4)

PAD/PDD/UST 644 GIS Capstone Seminar (4-0-4)

See the Master of Public Administration section of the Catalog for course descriptions.

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# urban economic development

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# Urban Economic Development

#### THE FACULTY

#### **Professors:**

Richard Bingham, Edward Hill, Larry Ledebur, Mark Rosentraub, Dean

# **Associate Professor:**

William Bowen

#### INTRODUCTION

Today's urban leaders must keep cities economically healthy, often in the face of declining populations, aging real estate, and a host of other challenges. The graduate certificate program in Urban Economic Development provides the skills and knowledge necessary to develop real-world strategies for overcoming these obstacles. The program is designed for graduate students enrolled in urban studies, public administration, and urban planning, design, and development degree programs, as well as working professionals who are seeking to expand their knowledge of urban economic development issues.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular status will be considered for admission to the certificate program. Applicants must have spreadsheet competency in a computerized environment.

Students enrolled in a graduate degree program at Cleveland State must file, prior to graduation, a letter stating their intent to complete the requirements for the certificate in Urban Economic Development. The letter, addressed to the Levin College Graduate Programs Advisor, must specify the anticipated date of completion for each course taken to fulfill certificate requirements.

Applicants who are not enrolled in a graduate degree program at Cleveland State must apply for graduate certificate admission. Certificate admission requirements are detailed in the Admissions section of this Catalog. In addition to meeting these admission requirements, applicants must submit a statement outlining their career goals, experience in economic development, educational goals, and a current resume.

With program approval, Non-Degree graduate students can enroll in the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

Submit application materials to the Graduate Admissions Office.

For additional information, contact the Graduate Programs Advisor in the Levin College at (216) 523-7522.

#### **Prerequisites**

<u>PAD/PDD/UST 603</u>, Public Finance and Economics, or its equivalent, is a prerequisite for the certificate program. Additional prerequisites may apply for elective courses in the program.

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#### THE PROGRAM

The certificate program consists of four courses, including three required courses and one elective.

#### **Required Courses**

<u>PAD/PDD/UST 605</u> Urban Spatial Structures<u>PAD/PDD/UST 620</u> Economic Development: Plans and Strategies<u>PAD/PDD/UST 622</u> Economic Development Policy

#### **Electives**

PDD/UST 572 Conflict Management
PDD/UST 610 Urban Development Process/Market Analysis
PDD/UST 615 Economic Development and Budgetary Strategy
PAD/PDD/UST 621 Local Labor Market Analysis
PAD/PDD/UST 623 Urban Development Finance and Applied Project
PAD/PDD/UST 624 Anti-Poverty Policy

PAD/PDD/UST 625 Strategic Thinking

PDD/UST 626 Workforce Development

PDD/UST 627 Urban Tourism, the Urban Core, and Economic Development

PAD/PDD/UST 642 Introduction to Geographic Information Systems

PAD/PDD/UST 693 Special Topics

SOC 683 Sociological Analysis of Work and Economic Change

See the Master of Science in Urban Studies, Master of Public Administration, Master of Urban Planning, Design, and Development, and the Master of Arts in Sociology sections of this Catalog for more information on individual courses.

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certificate programs:

### total quality management/ continuous quality improvement

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#### Total Quality Management / Continuous Quality Improvement

#### THE FACULTY

#### HEALTH CARE ADMINISTRATION

Professors:	Term Instructor:	
Charles H. Brooks, <i>Emeritus</i> Lawrence Walker, <i>Emeritus</i>	Marjorie Y. Placek	
	<b>Adjunct Faculty:</b>	
<b>Associate Professor:</b>		
	Georgia Anetzberger	
Brenda Stevenson Marshall,	Saeid Amini	
Director, M.B.A. in Health	Thomas Campanella	
Care Administration;	William F. Fallon, Jr.	
Director, Master of Public	Vincent Kaval	
Health Program	Dale Konrad	
	Thomas J. Onusko	

#### MANAGEMENT AND LABOR RELATIONS

#### **Professor:**

Tim Davis

#### ADDITIONAL PROGRAM FACULTY

In addition to the above faculty, the program draws on the experience and knowledge of the vast practitioner community in the greater Cleveland area. This practitioner community includes the Cleveland Clinic Foundation, MetroHealth, and consulting firms.

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#### **INTRODUCTION**

The purpose of the program is to equip individuals with the proficiency to define and measure quality and productivity in health care institutions, and to impart the interpersonal and team-building skills needed to design and establish quality improvement systems.

While many of the answers to the health care problems of our nation depend on renewed attention to important policy questions, we strongly believe that there is a direct correlation between the professionalism of management and the success of organizations in providing cost-effective and high-quality services to people while maintaining fiscal viability. The graduate certificate in TQM/CQI is designed to provide this professionalism through management training for those who are currently employed in the health care field and who currently hold entry- or mid-level managerial positions. Many certificate candidates do not have the opportunity or desire to pursue a graduate degree program.

The Cleveland State University Health Care Administration Program is accredited by the Accrediting Commission on Education for Health Services Administration (ACEHSA), and is the only such program in Northeast Ohio.

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#### **CAREER INFORMATION**

The U.S. Department of Labor *Occupational Outlook* notes that the health care administration field will "grow much faster than the average" occupation, amounting to an increase of 31 percent or more.

The experiences of the Cleveland State University service area are reflective of wider state and national trends. Recent cutbacks of administrative positions in hospitals have been more than offset by new openings in long-term care and ambulatory-care settings. A long-range study of the 1990s conducted by the United Way suggests that the Cleveland metropolitan area will continue to see growth in the service sector, including health care.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular admission status may be

admitted to the certificate program. Alternatively, the applicant must meet the graduate certificate admission requirements detailed in the Admissions section of this Catalog. With program permission, Non-Degree graduate students may enroll in the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

Credits earned for the certificate may apply toward a graduate degree as approved by the student's graduate program director and in keeping with the policies of the Graduate College.

Submit application materials to the Graduate Admissions Office.

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#### **CERTIFICATE REQUIREMENTS**

All students must complete the courses listed below:

HCA 500 Tools for Health Care Managers or

OMS 500 Mathematical Models for Business

**HCA 515** Medical Care Organization

HCA 615 Quality of Care

MBA 600 Team Dynamics

MLR 501 Management and Organizational Behavior

MLR 607 Total Quality Management/Continuous Quality Improvement

See the College of Business Course Descriptions section of this Catalog for details on course listings.

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#### **CONTACT INFORMATION**

Director

Graduate Study in Health Care Administration

Cleveland State University College of Business Administration 1860 East 18th Street, Room 435 Cleveland, OH 44114-3610

Phone: (216) 523-7232 or

Phone: (216) 687-4711 Fax: (216) 687-9354 Return to top [ CATALOG SITE MAP] [ SITE MAP-TEXT ONLY] [ GRADUATE CATALOG HOME]



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certificate programs:

### software engineering



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#### Software Engineering

#### THE FACULTY

#### **Associate Professors:**

# Chien-Hua Lin, Computer and Information Science Janche Sang, Computer and Information Science Chansu Yu, Electrical and Computer Engineering

#### **Assistant Professors:**

Jong S. Lee, Electrical and Computer Engineering Dan Simon, Electrical and Computer Engineering

In addition to the above full-time faculty, the program draws on the expertise and knowledge of local industrial software engineering managers.

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#### INTRODUCTION

The graduate certificate program in software engineering is offered by the Department of Electrical and Computer Engineering and the Department of Computer and Information Science.

Software engineering is the application of a systematic, disciplined, and quantifiable approach to the development, operation, and maintenance of software systems. These software systems include large-scale enterprise systems, medium-scale systems, web-based applications, desktop applications, and embedded systems.

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#### **ADMISSION**

Applicants should have a background in computer engineering or computer science. Prerequisite courses are required as indicated below. Applicants with baccalaureate degrees in related fields also will be considered for admission, but they may be required to take additional prerequisite courses. Credits earned for prerequisite courses can not be used to meet the graduate certificate requirements.

Applicants with baccalaureate degrees in computer science must complete the following prerequisite courses:

EEC 380 Digital Systems EEC 484 Computer Networks

Applicants with bachelor's degrees in computer engineering must complete the following computer science prerequisites:

CIS 430 Database Concepts
CIS 459 Object Oriented Programming

Applicants with baccalaureate degrees in computer science and computer engineering from an ABET/EAC-accredited program from a U.S. university must have a minimum grade-point average of 3.00. The GRE is required of applicants with a GPA between 2.75 and 3.00 with minimum scores of 80th percentile in the Quantitative section and 50th percentile in the Analytical section. International students are also required to submit TOEFL examination results with a minimum acceptable score of 525 (197 on the computer-based examination).

Submit application materials to the Graduate Admissions Office.

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#### **CERTIFICATE REQUIREMENTS**

The program consists of six course, totaling 21 credit hours:

CIS 634 Structured Analysis and Design (3-0-3)

CIS 635 Software Engineering Metrics, Economics, and Management (3-0-3)

CIS 636 Object-Oriented Analysis and Design (3-0-3)

EEC 517 Embedded Systems (2-4-4)

EEC 522 Software Systems Modeling and Analysis (4-0-4)

EEC 687 Mobile Computing (4-0-4)

For course descriptions, see College of Business Course Descriptions and Master of Science in Electrical Engineering in this Catalog.

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#### **CONTACT INFORMATION**

Chairperson, Electrical and Computer Engineering Department Fenn College of Engineering

Stilwell Hall, Room 332 Cleveland State University 2121 Euclid Avenue Cleveland, Ohio 44115-2425

Phone: (216) 687-2589 Fax: (216) 687-5403

E-mail: f.villaseca@csuohio.edu

Or visit the web site at www.csuohio.edu/electrical\_engineering/

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# occupational and physical therapy in the schools

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CSU GRADUATE CATALOG

Occupational and Physical Therapy in the Schools

THE FACULTY

**Associate Professors:** 

Susan Bazyk Cynthia Dieterich Colleen McMahon Kathleen McNamara Judith Stahlman **Assistant Professors:** 

Norma Cofresi Debra Plummer

#### INTRODUCTION

This is a collaborative program offered through the departments of Health Sciences and Psychology, and the College of Education. The 12-to-13-credit certificate enhances the skills of occupational and physical therapists currently working, or wishing to work, in K-12 school settings or special schools.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular status, and individuals who meet the minimum requirements for graduate certificate admission, will be considered for admission. Degree and certificate admission requirements are detailed in the Admissions section of this Catalog. With program permission, Non-Degree graduate students may enroll in the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

Applicants must have an undergraduate degree in occupational or physical therapy. Individuals with related undergraduate degrees such as speech pathology, audiology, nursing, education, psychology, or social work may be

admitted at the discretion of the program.

Submit application materials to the Graduate Admissions Office.

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#### **CURRICULUM**

Students take the following courses:

HSC 514 Occupational and Physical Therapy in the Schools (3-0-3)

<u>PSY 767</u> Special Topics in School Psychology: Process Issues in Consultation (2-0-2)

#### One of the following:

ESE 501 Nature and Needs of Young Children with Disabilities and Those at Risk (4-0-4)

ESE 502 Introduction to Individuals with Mild/Moderate Disabilities (4-0-4)

ESE 503 Introduction to Individuals with Moderate and Severe Disabilities (4-0-4)

#### One elective from the list below or other elective as approved:

HSC 512 Evolving Technologies in Health Sciences (3-0-3)

HSC 523 Educational Evaluation in Health Sciences (3-0-3)

ESE 511 Classroom Management and Intervention for Severe Behavior Problems (4-0-4)

ESE 512 Collaboration and Partnerships among Parents and Professionals in Special Education (4-0-4)

HED 560 Foundations of a Coordinated School Health Program (4-0-4)

PSY 550 Child and Adolescent Development and Disorders (4-0-4)

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certificate programs:

### nonprofit management



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#### Nonprofit Management

#### THE FACULTY

#### **Professors:**

Sanda Kaufman, *Department of Urban Studies* Camilla Stivers, *Department of Urban Studies* Thomas W. Whipple, *Department of Marketing* 

#### **Associate Professors:**

Jennifer Alexander, *Department of Urban Studies* Veronica Daugherty, *College of Law* 

#### **Assistant Professor:**

Nancy Meyer-Emerick, Department of Urban Studies

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#### INTRODUCTION

The graduate certificate program in Nonprofit Management is designed to help nonprofit leaders effectively deal with the challenges facing their organizations today, including government funding cutbacks, social problems, and the expanding need to acquire and manage financial resources. Administered by the Maxine Goodman Levin College of Urban Affairs, the program emphasizes hands-on learning designed to equip nonprofit administrators with the skills they need to succeed. It is aimed at executive directors and other managers, as well as professionals with business or government management experience who are seeking a bridge to the nonprofit sector.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular status will be considered for admission to the certificate program. In addition, applicants must have:

- 1. A career commitment to nonprofit management as evidenced by the student's resume and statement of career goals.
- 2. At least two years of management experience.

Students enrolled in a graduate degree program at Cleveland State must file, prior to graduation, a letter stating their intent to complete the requirements for the Certificate in Nonprofit Management. The letter, addressed to the Graduate Programs Advisor of the Levin College, must specify the anticipated date of completion for each course taken to fulfill certificate requirements.

Applicants who are not enrolled in a graduate degree program at Cleveland State must apply for graduate certificate admission. Certificate admission requirements are detailed in the Admissions section of this Catalog. In addition to meeting these admission requirements, certificate applicants must submit a statement outlining their education and career goals, have significant experience in the nonprofit sector, and submit a resume. Two letters of recommendation from individuals familiar with the applicant's management experience also are required.

With program permission, Non-Degree graduate students may enroll in the courses noted below, but Non-Degree students can not earn a University graduate certificate.

Submit application materials to the Graduate Admissions Office.

For further information, call the Office of Student Services of the Levin College at (216) 523-7522.

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#### **CERTIFICATE PROGRAM**

The certificate program consists of five courses: one required course and four electives.

#### **Required Course**

<u>PAD 650</u> Institutional Development of the Nonprofit Organization (four credits)

#### **Electives**

Four electives may be chosen from the following list. Other appropriate courses may be selected with approval from the student's advisor.

PAD/UST 510 Proposal Writing and Program Development (four credits)

<u>UST 572</u> Conflict Management (four credits)

PAD 604 Organizational Behavior (four credits)

PAD 630 Public Human Resources Management (three credits)

PAD 634 Ethics in the Public Sector (four credits)

<u>PAD 651</u> Fund Raising and External Relations for Nonprofit Organizations (four credits)

<u>PAD 652</u> Financial Administration and Control of Nonprofit Organizations (four credits)

LAW 722 Nonprofit Corporation Law Seminar (two credits)

MKT 605 Services Marketing (four credits)

See the Master of Science in Urban Studies, Master of Public Administration, and College of Business Course Descriptions sections of this Catalog for more information on individual courses. See the Cleveland-Marshall College of Law Bulletin for information on LAW courses.

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certificate programs:

# health care administration

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#### Health Care Administration

#### THE FACULTY

#### **Professors:**

Charles H. Brooks, *Emeritus* Lawrence Walker, *Emeritus* 

#### **Associate Professor:**

Brenda Stevenson Marshall,
Director,
M.B.A. in Health Care
Administration;
Director Master of Public
Health Program

#### **Adjunct Faculty:**

Georgia Anetzberger Saeid Amini Thomas Campanella William F. Fallon, Jr. Vincent Kaval Dale Konrad Thomas J. Onusko Marjorie Y. Placek

#### **Additional Program Faculty**

In addition to the above faculty, the program draws on the experience and knowledge of the vast practitioner community in the greater Cleveland area. This practitioner community includes the Cleveland Clinic Foundation, MetroHealth, and Ernst and Young Consultants.

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#### INTRODUCTION

While many of the answers to the health care problems of our nation depend on renewed attention to important policy questions, we strongly believe that there is a direct correlation between the professionalism of management and the success of organizations in providing cost-effective and high-quality services

to individuals while maintaining fiscal viability.

The Graduate Certificate in Health Care Administration is designed to provide this professionalism through management training for those who are currently employed in the health care field and who currently hold, or aspire to hold, entry- or mid-level managerial positions. Many certificate candidates do not have the opportunity or desire to pursue a graduate degree program.

The Cleveland State University Health Care Administration Program is accredited by the Accrediting Commission on Education for Health Services Administration (ACEHSA), and is the only such program in Northeast Ohio.

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#### **CAREER INFORMATION**

The U.S. Department of Labor Occupational Outlook notes that the health care administration field will "grow much faster than the average" occupation, amounting to an increase of 31 percent or more. There can be little doubt that the experiences of the Cleveland State University service area are reflective of wider state and national trends. Recent cutbacks of administrative positions in hospitals have been more than offset by new openings in long-term care and ambulatory care settings. A long-range study of the 1990s conducted by the United Way suggests that the Cleveland metropolitan area will continue to see growth in the service sector, including health care.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular admission status may be admitted to the certificate program. Alternatively, the applicant must meet the graduate certificate admission requirements detailed in the Admissions section of this Catalog. With program permission, Non-Degree graduate students may enroll in the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

Credits earned for the certificate may apply toward a graduate degree as approved by the student's graduate program director and in keeping with policies of the Graduate College.

Submit application materials to the Graduate Admissions Office.

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#### **CERTIFICATE REQUIREMENTS**

All students must complete the courses listed below.

**ACT 501** Financial Accounting

HCA 510 Administrative Uses of Epidemiology

HCA 515 Medical Care Organization

MBA 600 Team Dynamics

MLR 501 Management and Organizational Behavior

MLR 577 Managerial Skill Development

See the College of Business Course Descriptions section of this Catalog for details on course listings.

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#### FOR INFORMATION CONTACT:

Director

Graduate Study in Health Care Administration

Cleveland State University College of Business Administration 1860 East 18th Street, Room 435 Cleveland, OH 44114-3610

Phone: (216) 523-7232 or Phone: (216) 687-4711 Fax: (216) 687-9354

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certificate programs:

## gerontological studies



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#### Gerontological Studies

#### THE FACULTY

#### **Professors:**

Bette R. Bonder, *Department of Health Sciences* Zev Harel, *Department of Social Work* Boaz Kahana, *Department of Psychology* Sarah H. Matthews, *Department of Sociology* 

#### **Associate Professors:**

Henry M. Barlow, Emeritus, Department of Sociology

Eileen Berlin Ray, Department of Communication

Jill Black, Department of Health, Physical Education, Recreation, and Dance

Edward P. Brennan, Department of Religious Studies

David R. Elkins, Department of Political Science

Cheryl P. McCahon, Department of Nursing, Director, Gerontological Studies Program

Ronald A. Reminick, *Department of Anthropology* 

Kenneth E. Sparks, Department of Health, Physical Education, Recreation, and Dance

#### **Assistant Professors:**

Andrea Jennings, Department of Nursing

Kathleen Little, Department of Health, Physical Education, Recreation, and Dance

Rongjun Sun, Department of Sociology

#### **Additional Program Faculty**

In addition to the above faculty, the program draws on the strengths of an array of outstanding gerontological professionals in the community, including those at the Benjamin Rose Institute, the Myers Center on Aging, the Cleveland

Clinic, and the Fairhill Center on Aging.

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#### INTRODUCTION

The Graduate Certificate in Geronto-logical Studies is designed to assist students in developing careers in fields that provide services for the growing population of older people. Courses are offered in three specializations, including clinical/interventive roles, gerontological policy/program development, and academic/applied research. These specializations are designed to afford opportunities for students to enhance their skills and knowledge in critical areas that relate to the needs of elders. The clinical/interventive specialization is designed primarily for students in health fields such as nursing, occupational therapy, physical therapy, and other professional fields such as clinical psychology, speech and hearing, and social work. The gerontological policy/program specialization is intended to assist students with administrative and program development interests. The academic/applied research specialization is designed for students planning to seek advanced degrees or to do applied research in community agencies serving older individuals.

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#### **FACULTY RESEARCH**

Faculty research interests reflect the interdisciplinary nature of the field and recent work includes a number of books, articles in professional journals, and presentations at professional meetings, along with sustained contributions to professional associations, such as the Gerontological Society of America, the Association for Gerontology in Higher Education, and the American Society on Aging.

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#### **CAREER INFORMATION**

Few areas offer more career opportunities than the field of aging. These range from careers in health and human service organizations to business, financial, legal, administrative, religious, and professional careers in almost all fields. With the growth of the aging population and the anticipated effects of the

"baby boom generation" on the structure and functioning of society, careers in gerontology are among the most promising in American society. Also, with the aging of populations on a world-wide basis, the need for well-prepared professionals is becoming even more evident.

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#### ADMISSION

Degree-seeking graduate students who hold Regular admission status may be admitted to the certificate program. Alternatively, the applicant must meet the graduate certificate admission requirements detailed in the Admissions section of this Catalog. With program permission, Non-Degree graduate students may enroll in the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

Credits earned for the certificate may apply toward a graduate degree as approved by the student's graduate program director and in keeping with policies of the Graduate College.

Submit application materials to the Graduate Admissions Office.

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#### **CERTIFICATE REQUIREMENTS**

All students must complete a minimum of three specified courses plus an internship, research project, or practice course for a total of 13 to 15 credits. Required courses include:

#### 1. Academic/applied research specialization:

PSY 549 Aging and Mental Health Issues (4-0-4)

SOC 516 Sociology of Aging (4-0-4) or

SOC 661 Aging and the Life Course (4-0-4)

A graduate research methods course in sociology or psychology (four credits)

Research Project (three credits)

#### 2. Clinical/interventive specialization:

HCA 650 Long-Term Care (3-0-3)

PSY 549 Aging and Mental Health Issues (4-0-4)

SWK 680 Aging and Social Work Practice (3-0-3)

An internship or clinical practice course in one of the cooperating health fields, psychology, or social work (three to five credits)

#### 3. Gerontological policy/program development specialization:

HCA 650 Long-Term Care (3-0-3)

SOC 516 Sociology of Aging (4-0-4) or

SOC 661 Aging and the Life Course (4-0-4)

SWK 680 Aging and Social Work Practice (3-0-3)

An internship or field placement course (three to five credits). May include

HCA 685.

For course descriptions, see master's degree sections for psychology, social work, sociology, and health care administration in this Catalog.

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### ergonomics / human factors

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Ergonomics / Human Factors

THE FACULTY

**Associate Professors:** Assistant Professors:

Glenn Goodman John Jeziorowski Andrew Liou Andrew Slifkin Chien-Chen Bowen

#### INTRODUCTION

This is a collaborative program offered through the departments of Health Sciences, Psychology, and Industrial and Manufacturing Engineering. The 16-credit program enables individuals from health care and engineering backgrounds to examine the interaction between workers and the physical environment, and make modifications to prevent injury or enhance performance. The program is designed to prepare students for the Certified Professional Ergonomist examination.

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#### **ADMISSION**

To enroll in the program, students must:

1. Be degree-seeking graduate students who hold Regular admission status. Alternatively, the applicant must meet the graduate certificate admission requirements detailed in the Admissions section of this Catalog. With program permission, Non-Degree graduate students may enroll in the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

- 2. Hold an undergraduate degree in one of the following fields: occupational therapy, physical therapy, engineering, nursing, social work, sociology, psychology, or biology. Students with related undergraduate degrees may be admitted at the discretion of the program.
- 3. Have completed the following prerequisite undergraduate courses: an upper-division psychology course, a human anatomy course, and an inferential statistics course.

Submit application materials to the Graduate Admissions Office.

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#### **CURRICULUM**

Students take the following courses:

<u>IME 505</u> Human Factors Engineering (3-0-3)

PSY 451 Human Performance (4-0-4)

HSC 524 Functional Anatomy (3-0-3)

PSY 593 Special Topics in Psychology: Task Analysis (4-0-4) OR

IME 696 Directed Studies in Industrial Engineering: Task Analysis (4-0-4)

IME 696 Directed Studies in Industrial Engineering: Applied Project (2-0-2)

For course descriptions, see master's degree sections for psychology, health sciences, and industrial engineering in this Catalog.

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certificate programs:

### data-driven marketing planning

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#### Data-driven Marketing Planning

#### Department of Marketing College of Business Administration

1860 East 18th Street, Room 460 Cleveland, Ohio 44114-3610

Phone: (216) 687-4771 FAX: (216) 687-9354

E-mail: marketing@csuohio.edu

#### THE FACULTY

#### **Professors:**

Rajshekhar G. Javalgi Thomas W. Whipple

#### **Associate Professor:**

Amit K. Ghosh

#### **Additional Faculty**

In addition to the above faculty, the program draws on the strengths of other outstanding faculty in the Department of Marketing, such as Professors Rosemary Ramsey, William J. Lundstrom, and W. Benoy Joseph.

#### **INTRODUCTION**

The Graduate Certificate in Data-Driven Marketing Planning is designed to

assist students in developing careers as marketing analysts or planners. They learn to use decision-support systems in marketing decision making. The research and decision models introduced during the certificate program provides students with the planning tools they need and use in their jobs. Students and Cleveland-area business people, including marketing research suppliers, consultants, planners, and analysts, who desire a more focused, hands-on, and practical experience in marketing decision making, benefit from the program.

Students who complete the certificate program are able to:

- 1. Collect appropriate data for planning purposes.
- 2. Use secondary data sources and marketing databases in planning.
- 3. Conduct sensitivity and scenario analyses to assess plan effectiveness.
- 4. Develop marketing plans and decision-support systems based on qualitative and quantitative analysis.

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#### **FACULTY RESEARCH**

Faculty research interests reflect the analytical nature of the field. Recent work includes a number of articles in professional journals, presentations at professional meetings, and sustained contributions to professional associations.

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#### **CAREER INFORMATION**

Few areas in marketing offer more career opportunities than marketing analysis and planning. These range from careers in marketing research, advertising, and promotion, to new product development, pricing administration, strategic planning, sales management, and professional careers in almost all marketing fields.

With the growth in the use of business software, the need for well-prepared professionals with analytical planning skills is becoming more evident.

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#### **ADMISSION**

M.B.A. students who hold Regular admission status, and individuals who qualify for Regular admission to the M.B.A. program, may be admitted to the certificate program. Students who are admitted to the certificate program should have completed a graduate-level marketing course or have significant marketing experience prior to enrolling. Credits earned as part of the certificate program may apply toward a graduate degree as approved by the student's graduate program director and in keeping with the policies of the College of Business Administration and the College of Graduate Studies. Submit application materials to the Graduate Admissions Office.

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#### **CERTIFICATE REQUIREMENTS**

All students must complete four required courses for a total of 16 credits. Courses are:

MKT 602/702 Marketing Research (4-0-4)

MKT 604/704 Strategic and Tactical Marketing (4-0-4)

MKT 606/706 Advertising and Promotion Management (4-0-4)

MKT 607/707 Product Management (4-0-4)

See the College of Business Course Descriptions section of this Catalog for more details on courses.

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Culture, Communication and Health Care

THE FACULTY

**Professors:** Assistant Professors:

Brian Blake Renee Botta
Bette Bonder Norma Cofresi
Sidney Kraus Loreen Olson

Laura Martin

Sarah Matthews William Morgan

Eileen Berlin Ray

**Adjunct Professor:** 

Michael Wisnewski

**Associate Professors:** 

Beth Ekelman Kathleen McNamara George Ray

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#### INTRODUCTION

Health care providers are deeply concerned about the quality of interaction between care providers and clients of diverse cultural backgrounds. This graduate certificate program is designed to provide practitioners the tools they need to be effective in this situation. Based on ethnographic methods used by social scientists, the certificate provides training in both theory and practice to enhance the quality of intercultural communications and health care delivery.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular admission status may be admitted to the certificate program. Alternatively, the applicant must meet the graduate certificate admission requirements detailed in the Admissions section of this Catalog. With program permission, Non-Degree graduate students may enroll in the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

Applicants must hold an undergraduate or graduate degree in health care or a related profession.

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#### THE PROGRAM

Students must take one course from each of the four clusters listed below:

#### **Cognitive Framework (choose one):**

COM 549 Health Communication (4-0-4)

HSC 505 Culture and Health Care (3-0-3)

SOC 580 Racial and Ethnic Inequality (4-0-4)

SOC 680 Race and Ethnicity in American Society (4-0-4)

#### **Methods** (choose one):

COM 534 Ethnographic/Qualitative Research Methods (4-0-4)

<u>COM 535</u> Participant Observation/Interviewing Methods (4-0-4)

PSY 512 Field Research Methodology (4-0-4)

SOC 555 Ethnographic Research Methods (4-0-4)

#### **Application**

PSY 535 Clinical Interviewing Practicum (2-0-2) AND

PSY 536 Behavioral Observation and Consultation Practicum (2-0-2) OR

PSY 672 Multicultural Psychology and Diversity Practicum (4-0-4)

#### **Elective (choose one or more):**

ANT 560 Special Topics: Anthropology (4-0-4)

COM 549 Health Communication (4-0-4)

HSC 570 Special Topics in Health Sciences: Health Care in Guatemala (3-0-3)

HSC 570 Special Topics in Health Sciences: Health Care in Belize (4-0-4)

SOC 543 Medical Sociology (4-0-4)

SWK 695 Health Care: Planning and Policy Issues (3-0-3)

For course descriptions, see master's degree sections for psychology, sociology, communication, social work, and health sciences in this Catalog.

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certificate programs:

# advanced study in bioethics

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Advanced Study in Bioethics

THE FACULTY

**Professors:** Assistant Professors:

Joseph P. DeMarco Samuel A. Richmond Alan Rosenbaum Mary Ellen Waithe Martin Harvey Allyson Robichaud

#### INTRODUCTION

The Philosophy Department offers a course of study leading to a Graduate Certificate in Advanced Study in Bioethics. The certificate program is designed primarily for individuals involved in health care practice, research, or administration, for whom questions of ethics arise on a daily basis. The curriculum provides grounding in the essentials of bioethical reasoning and practice for nurses, physicians, social workers, researchers, hospital administrators, and other health care professionals. Courses are offered in four areas: moral philosophy, clinical issues, bioethics and law, and health policy.

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#### **FACULTY RESEARCH**

Professor DeMarco is author of Moral Theories and numerous articles on ethics. He is the developer of the web-based courses that are part of the certificate program. Professors DeMarco and Fox are co-authors of *Moral Reasoning* and co-editors of *New Directions in Ethics*. Professor Richmond is author of articles on ethics, theories of justice, philosophy of law, and social work practice. Professor Robichaud completed a bioethics fellowship at Mt.

Sinai School of Medicine in New York City. Her dissertation was on "Emotions: Something More than Feelings." Most recently, Professor Robichaud's interest has been focused on the role of narrative in bioethics. Professor Harvey also completed a bioethics fellowship at the Mt. Sinai School of Medicine. He has published articles on the philosophy of law and social philosophy. Professor Rosenbaum is editor of *Is the Holocaust Unique?* Perspectives on Comparative Genocide, Constitutionalism: The Philosophical Dimension, and The Philosophy of Human Rights: International Perspectives. He is the author of "On the Use of Nazi Medical Experimentation Data: Memorial or Betrayal?," Prosecuting Nazi War Criminals, and Coercion and Autonomy: Philosophical Foundations, Issues, and Practices. Professor Waithe has written articles on ethics in medicine, nursing, dentistry, pharmacy, psychiatry, and nursing home administration.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular admission status may be admitted to the certificate program. Alternatively, the applicant must meet the graduate certificate admission requirements detailed in the Admissions section of this Catalog. With program permission, Non-Degree graduate students may enroll in the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

Submit application materials to the Graduate Admissions Office.

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#### **CERTIFICATION**

Individuals who successfully complete 12 credits in bioethics at the graduate level, including four credits of Reasoning in Bioethics, with a grade of B or better, are eligible to receive the Graduate Certificate in Advanced Study in Bioethics granted by the University. The certificate testifies that its holder has completed an intensive course of graduate study in moral theory, decision-making procedures in bioethics, the current literature of bioethics, and the practical application of moral principles and rules to cases in clinical practice, decision making, and law. Bioethics courses are numbered PHL 520 to 528 and PHL 540 to 543. PHL 520 to 527 cover the same material as PHL 540 to 543 in a different format. Students who have had a four-credit course in a particular area should not take a corresponding two-credit course, and vice versa. Some courses are offered in a web-based format.

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#### **COURSES**

- PHL 520 Reasoning in Bioethics: Basic Issues (2-0-2)
- PHL 521 Reasoning in Bioethics: Contextual Approaches (2-0-2)
- PHL 522 Clinical Bioethics: Cases I (2-0-2)
- PHL 523 Clinical Bioethics: Cases II (2-0-2)
- PHL 524 Bioethics Policy: Prevention and Access (2-0-2)
- PHL 525 Bioethics Policy: Technology (2-0-2)
- PHL 526 Bioethics and Law: Regulation (2-0-2)
- PHL 527 Bioethics and Law: Rights (2-0-2)
- PHL 528 Bioethics: Special Topics (2-0-2)
- PHL 540 Moral Reasoning and Bioethics (4-0-4)
- PHL 541 Clinical Issues in Bioethics (4-0-4)
- PHL 542 Policy Issues in Bioethics (4-0-4)
- PHL 543 Bioethics and the Law (4-0-4)

See the Master of Arts in Philosophy section of this Catalog for course descriptions.

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certificate programs:

# adult learning and development

THE FACULTY
PROGRAM DESCRIPTION
FACULTY RESEARCH

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#### Adult Learning and Development

#### THE FACULTY

#### **Professor:**

Richard McArdle, Emeritus

#### **Associate Professor:**

Catherine A. Hansman, *Program Coordinator* 

#### **Assistant Professor:**

Elice E. Rogers

In addition to the above full-time faculty, the program draws on the expertise and knowledge of adult educators in agencies and business throughout the community as well as other faculty and staff members from Cleveland State University.

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#### PROGRAM DESCRIPTION

The Adult Learning and Development (ALD) certificate program is designed to provide present and future adult educators with theories, competencies, and knowledge that will help them plan, teach, and administer programs for a diverse population of adult learners in a variety of settings, including, but not limited to, technical/vocational colleges; proprietary schools; four-year colleges; literacy, ABE, and GED programs; and training programs within health care, business, and industrial settings.

The ALD certificate program provides an avenue for meeting the continuing professional education requirements often required of professional adult educators. Additionally, the certificate program presents a challenging course of study for adult educators who desire further education but not necessarily a

degree.

Today's adult educator must possess vision, theory, and practical skills to promote active learning and reflection among a diverse population of adult learners. The ALD certificate program provides present and future adult educators with an awareness of the issues facing them in a variety of learning environments. Theories, practical applications, instructional design, philosophy, and program planning and administration are emphasized through the courses in the program. The certificate program requires a total of 18 credit hours: a 15-credit core of required courses and three credits of elective course work chosen by the student with approval from program faculty.

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#### **FACULTY RESEARCH**

Faculty research interests reflect the interdisciplinary nature of the field, and recent work includes a number of books and book chapters, articles in professional journals, and presentations at professional meetings. Faculty members belong to associated professional organizations, such as the American Association for Adult and Continuing Education, the Ohio Association for Adult and Continuing Education, the Commission of Professors of Adult Education, the American Educational Research Association, the American Association for Higher Education, and the Greater Cleveland Adult Education Council.

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#### **CAREER INFORMATION**

Learning is a lifelong process. Today's rapidly changing technological world requires adults to learn new ways of doing their jobs and preparation for career changes. This has resulted in a demand for qualified adult educators to assist adult learners as they cope with the effects of ever-changing technologies, organizations, and new career requirements. Adult educators work in a variety of settings, such as adult basic education (ABE) or General Educational Development (GED) programs; two- and four-year colleges, universities, and technical institutions; ESL and literacy programs; continuing education, training, and development programs in human resource development departments in business and industry; cooperative extension services; health care organizations; social service agencies; continuing professional development; and community development. This list reflects the growth of the adult education field. The need for well-prepared professional adult educators

to help adults learn is crucial to businesses, agencies, and institutions.

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#### **ADMISSION**

Degree-seeking graduate students who hold Regular admission status may be admitted to the certificate program. Alternatively, the applicant must meet the graduate certificate admission requirements detailed in the Admissions section of this Catalog. With program permission, Non-Degree graduate students may enroll in the courses noted below, but Non-Degree graduate students can not earn a University graduate certificate.

Students who want to apply credits earned for the ALD certificate toward a graduate degree must follow requirements outlined in this Catalog.

Submit application materials to the Graduate Admissions Office.

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#### **CERTIFICATE REQUIREMENTS**

(18 credit hours)

#### **Core Courses**

ALD 605 Psychology of the Adult Learner (three credits)

ALD 607 Adult Education in a Changing Society (four credits)

ALD 645/745 Organizational Behavior and Change (four credits)

<u>ALD 663</u> Planning and Implementing Programs for Adult Learners (four credits)

#### **Elective**

Course work chosen by the student with faculty approval (three to four credits)

See the College of Education Course Descriptions section of this Catalog for details on ALD courses.

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PROGRAM AREAS:

arts and humanities

business administration

education

engineering

health professions

natural sciences

social and behavioral

sciences

urban affairs

CERTIFICATE AREAS

ADDENDA

education: master of education:

# adult learning and development





#### INTRODUCTION

### PROGRAM OF STUDY

#### Adult Learning and Development

#### INTRODUCTION

35-36 credit hours leading to the Master of Education degree

Learning is a life-long process. Today's rapidly changing and technological world requires adults to learn new ways of doing their jobs or to change careers several times throughout their lives. This new reality requires adults to return to educational institutions for classes, to partake in on-the-job training and development courses, and to attend continuing professional education seminars in order to achieve new career goals. The influx of adult learners into adult education venues has resulted in a demand for qualified adult educators to assist adult learners as they cope with the effects of an ever-changing world.

Adult educators are employed to plan, teach, administrate, coordinate, and evaluate programs for adult learners. They may work in many different types of organizations, such as higher education, business and industry, labor unions, GED/ABEL programs, cooperative extension services, community agencies, professional continuing education programs, museums, health education centers, hospitals, libraries, and correctional institutions.

The purpose of this program is to prepare present and future adult educators with the theories, competencies, and knowledge that will help them plan, teach, and administer programs for a diverse population of adult learners in a variety of settings. The M.Ed. program is committed to providing adult educators with a cognizance of the issues and challenges confronting adult educators in a variety of learning environments. Theories, philosophies, history, and practices concerning adult learning and development, teaching adult learners, and program planning and administration are emphasized through a variety of courses throughout the program. Students also gain practical experience through participation in an internship.

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#### PROGRAM OF STUDY

# **College Core**

(12 credits)

# 1. Educational Research and Technology

EDB 601 Educational Research (three credits)
ETE 501 Technology Strand (two credits)

#### 2. Social Foundations

ALD 607 Adult Education in a Changing Society (four credits)

# 3. Psychological Foundations

ALD 605 Psychology of the Adult Learner (three credits)

# **Adult Learning and Development Concentration** (eight credits)

- 1. ALD 645/745 Organizational Behavior and Change (four credits)
- 2. <u>ALD 663</u> Planning and Implementing Programs for Adult Learners (four credits)

#### Internship

(four credits)

ALD 688 Internship in Adult Learning and Development (four credits)

#### **Goal-Directed Electives**

(11-12 credits)

Each student selects 11-12 credit hours of study from the courses listed below, or from other courses after discussion of career goals with faculty advisor:

<u>LDD 012</u>	Curricular Theory and instruction (times creates)
EDB 711	Educational Evaluation and Innovation (four credits)
EDE 622	Individual Counseling: Theory and Process (three credits)

FDR 612 Curriculum Theory and Instruction (three credits)

EDE 624 Career Development and Information Services (three credits)

ALD 606 Modern Higher Education in a Changing Society (four credits)

<u>ALD 631</u> Group Dynamics for Educational Leadership (four credits)

<u>ALD 646</u> Human Resource Development for Adult Learners (four credits)

ALD 664 Instructional Principles for Adult Learners (four credits)

ALD 665 Student Personnel Services in Higher Education (four credits)

<u>ALD 679</u> Planning, Marketing, and Budgeting in Nonprofit Organizations (four credits)

ALD 689 ALD Portfolio Development (four credits)

<u>ALD 700</u> Issues in Multicultural Foundations of Urban Adult Education (four credits)

# **Culminating Activity**

Select one of these options: comprehensive examination, project, thesis, or portfolio development (ALD 689).

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sciences

urban affairs

CERTIFICATE AREAS

ADDENDA

education: master of education:

# community health education





INTRODUCTION

PROGRAM OF STUDY

SCHOOL NURSE LICENSURE PROGRAM

#### Community Health Education

#### INTRODUCTION

33 credit hours leading to the Master of Education degree

This program provides a multi-disciplinary approach for professionals interested in careers in community health education or in the private health care sector. A variety of undergraduate majors (e.g., nursing, gerontology, health education, sociology, psychology, allied health, physical education) may prepare students for employment opportunities in this professional field. Course work and practica are available in individually designed areas of emphasis, such as general health issues, substance abuse, population studies, environmental health, community systems, and health care.

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#### PROGRAM OF STUDY

#### **College Core**

(nine credits)

EDB 601 Educational Research (three credits)

ETE 501 Technology Strand (two credits)

HED 550 Theories in Health Education and Health Behavior (four credits)

#### **Specialization**

(24 credits)

<u>HED 551</u> Organization and Administration of Community Health Education Programs (four credits)

HED 552 Health Education Program Planning (three credits)

<u>HED 553</u> Measurement and Evaluation of Health Education Programs (three credits)

HPR 681/682 Practicum (four or five credits) (register for five credits if elective credit total is nine)

Electives: Select three of the following courses (nine to 10 credits)

HED 561 Methods and Materials for Health Education (three credits)

(Prerequisite: HED 560 or equivalent)

HED 565 Analyzing Health Data for Grant Writing (three credits)

HED 570 Pathophysiology of Disease (four credits)

HED 571 Substance Abuse Education (three credits)

HED 572 Consumer Health (three credits)

HED 573 Teaching Human Sexuality (three credits)

HED 574 Stress Management (three credits)

<u>HED 575</u> Nutrition and Physical Activity (three credits)

<u>HPR 606</u> Human Development (three credits)

<u>PED 677</u> Prevention and Rehabilitation of Cardiovascular Disease (three credits)

EDB 612 Curriculum Theory and Instruction (three credits)

HCA 510 Administrative Uses of Epidemiology (three credits)

HCA 515 Medical Care Organization (three credits)

HCA 640 Health Care Law (three credits)

Other approved course (three to four credits)

# **Culminating Activity**

Select one of three options: comprehensive examination, project, or thesis.

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#### SCHOOL NURSE LICENSURE PROGRAM

The Department of Health, Physical Education, Recreation, and Dance (HPERD) offers courses leading to Ohio licensure for school nurses (web site: www.csuohio.edu/healthed). The student shall be recommended for the licensure provided that he or she: 1) holds a current license to practice as a Registered Nurse (RN) in the State of Ohio, 2) has obtained a bachelor's degree from an approved college or university, and 3) has completed course work preparation for this licensure that conforms to the requirements listed.

Students should apply for graduate admission as a Non-Degree student to register for courses. Upon completion of these courses, students must apply for licensure through the HPERD Department, PE 228; telephone (216) 687-4870. Application for licensure is then processed directly through the Education Student Services Center of the College of Education (RT 1401, telephone (216) 687-4625). An overall grade-point average of 2.50 must be maintained throughout the program.

Course requirements are based on the National School Nurse Roles and Standards. Course work (26 to 28 credits minimum) must be distributed in the following areas:

### **Comprehensive School Health Program**

<u>HED 560</u> Foundations of a Coordinated School Health Program (four credits)NUR 550 Issues in School Nursing (two credits)

# **Comprehensive School Health Education Delivery**

<u>HED 561</u> Methods and Materials for Health Education (three credits) (Prerequisite: HED 560 or equivalent)

### **Children with Special Needs**

<u>ESE 503</u> Introduction to Individuals with Moderate and Severe Disabilities (four credits) (Must be taken before the assessment courses.)

#### **School Assessment**

NUR 530 Health Assessment of the School Age Child (two credits) NUR 532 Health Assessment of the School Age Child/Lab (one credit)

#### **Community Health Collaboration**

<u>HED 551</u> Organization and Administration of Community Health Programs (four credits)

#### Research

NUR 360 Nursing Research (two credits)

Elective (two credits) Based on individual needs following transcript review.

#### **Practicum for School Nurses**

HPR 679/680/681 Practicum (two, three, or four credits, respectively). Clinical and field-based experiences, including a practicum for at least 10 weeks, to ensure proficiency in performing the duties of a school nurse. School nurses with two years of full-time experience can complete two credits; all others must complete three or four credits. At least two-thirds of the course work must be completed. Includes a seminar and the development of a professional portfolio.

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CERTIFICATE AREAS

ADDENDA

education: master of education:

# counselor education





[SCHOOL COUNSELING - INTRO]
[PROGRAM OF STUDY (School Counseling)]

COMMUNITY AGENCY
COUNSELING - INTRO
PROGRAM OF STUDY
(Community Agey Couns)

#### Counselor Education

#### SCHOOL COUNSELING - INTRODUCTION

48 credit hours leading to the Master of Education degree

The school counseling program is based on the conceptual framework of the School Counselor as a Human Development and Professional Program Manager. This model envisions the school counselor as a professional program manager who has the skills to assess, develop, improve, manage, and evaluate a counseling program that is comprehensive and conceptualized on the development of student competencies. The foci of the comprehensive program are developmental (activities provided for all students to foster their development), preventive (activities centered on the identification of students who are highly at risk of acquiring blocks to their development and removal of those blocks), and remedial (activities to help students who are struggling with problems that are blocking their development).

The school counseling specialization at Cleveland State University is a 48 semester hour concentration leading to a Master of Education degree. Graduates of the program who possess a valid Ohio teaching certificate and who have completed two years of successful teaching and successfully passed the licensure exam for school counselors are eligible for a five-year professional pupil services license for school counseling.

#### **Admission Information**

In addition to meeting Graduate College admission requirements, the Counselor Education Program requires all applicants to:

1. Provide official scores from either the Miller Analogies Test (MAT) or the Graduate Record Examination (GRE);

- 2. Provide two evaluation forms completed by professional colleagues or supervisors; and
- 3. Successfully complete the CASAL Department Admissions Test. Dates and times for the test can be found at www.csuohio.edu/casal.

The following program guidelines are for students whose official letter of admission is dated after July 1, 1999. Once admitted to the program with "Regular" graduate status, students are assigned a faculty advisor who helps with planning. Upon admission, students should contact an advisor for a program planning appointment. For students admitted with "Non-Degree" status, course information is available in the departmental office, Rhodes Tower 1419.

Admission to the Counselor Education Program is an academic admission. Students are not fully admitted into the program until they have completed EDE 684, and their work in this course has been reviewed. Thus, this course must be the first taken in the professional counselor education sequence. Other counselor education professional courses may be taken simultaneously, but not before completing this course. If EDE 684 has not been completed, other courses that may be taken concurrently are: EDB 601, EDB 620, EDE 604, EDE 617, and EDC 501.

### **Non-Degree Graduate Status**

All Non-Degree graduate students must complete an Application for Graduate Admission and meet all admissions requirements. Admission as a Non-Degree student is not the same as admission to the counseling program. Non-Degree students may enroll in EDB 601, EDB 620, EDE 604, EDE 611, EDE 617, and EDC 501. Once these courses have been completed, Non-Degree students must apply to the degree program through the Graduate Admissions Office before taking more classes.

# **Transferring Credit**

Up to nine hours of credit may be transferred into the program from another university with appropriate documentation (transcript and college catalog course description) and advisor approval as long as those courses were not used toward a degree already earned. Special forms for this are available from the Education Student Services Center (RT 1401).

# **Early Field Experience**

All counselor education students are required to document 200 hours of field experiences related to the work of a counselor prior to being admitted to the counseling practicum. Most students are able to accomplish this in their place of employment. The documentation form is available in RT 1419.

# **Clinical and Field Based Experience**

EDE 685 is an intensive, two consecutive semester learning experience of supervised counseling in a field setting. The courses are offered on a fall-spring sequence. All course work listed (except EDB 601, EDE 604, and EDE 617) are prerequisites. Any of these required courses not completed prior to the first semester of practicum/internship must be taken concurrently with the first semester of practicum/internship. These requirements are strictly adhered to by the counselor education faculty.

#### **Eligibility for Counseling Practicum**

In order to be eligible to register for counseling practicum (EDE 685), two forms must be submitted by February 1:

- 1. The Early Field Experience (EFE) Documentation Form, and
- 2. The Practicum Application.

These forms are available in the department office, RT 1419.

#### Sequence

EDE 684 Laboratory in Counseling Techniques is the first course taken in the professional counselor education sequence. Other counselor education professional courses may be taken simultaneously, but not before completing this course. If EDE 684 has not been completed, other courses that may be taken concurrently are: EDB 601, EDB 620, EDE 604, EDE 617, and EDC 501. Once EDE 684 has been completed, students may take courses other than those listed above. However, they should note that some courses have prerequisites.

The program of study reflects the content areas required for the professional pupil services license for school counseling. Specific courses listed satisfy the indicated content area. Course work in starred (\*) areas satisfy a College of Education core requirement.

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#### PROGRAM OF STUDY (SCHOOL COUNSELING)

(48 credits)

# 1. Early Practicum

<u>EDE 684</u> Laboratory in Counseling Techniques (three credits)-first course to be taken after acceptance into the Counseling Program. In addition, students are expected to complete 200 hours of early field experience.

#### 2. Research in Behavioral Sciences\*

EDB 601 Educational Research (three credits)

ETE 501 Technology Strand (two credits)

#### 3. Cultural Foundations and Social Issues\*

<u>EDE 604</u> Cultural and Social Foundations in Counseling (three credits)

EDE 617 Ethical and Legal Issues in Counseling (three credits)

# 4. School Counselor Practices and Principles

EDE 616 Techniques in School Counseling (three credits)

EDE 678 Foundations of School Counseling (three credits)

#### 5. Human Development

Choose one of the following:

<u>EDB 620</u> Psychology of the Adolescent Learner (three credits)

EDC 501 Child Development (three credits)

### 6. Individual Counseling

EDE 622 Individual Counseling: Theory and Process (three credits)

EDE 670/770 Counseling Children and Adolescents (three credits)

#### 7. Group Process\*

EDE 623 Group Process and Practice (three credits)

Note: Active involvement in a personal growth group is usually a required part of this course.

#### 8. Assessment and Diagnosis

EDE 611 Appraisal in Counseling (two credits)

EDE 731 Psychopathology and Diagnosis for Counselors (four credits)

# 9. Career Development

EDE 624 Career Development and Information Services (three credits)

# 10. Clinical and Field Based Experience

<u>EDE 685</u> Practicum/Internship in School Counseling (two semesters, three credits per semester)

#### 11. Elective

Counseling Elective (one credit)

Note: An official Program of Study contract indicating all required and elective courses must be submitted to the advisor no later than the 20th hour of course work. Since a copy of this form is used to determine eligibility for graduation, it is important to submit this form promptly.

# **Exit Requirements**

A culminating activity is required of all students. Most students choose to take the Comprehensive Examination. It is normally completed during the last semester in which the student is taking course work. Comprehensives are scheduled for the College once each academic semester, usually on the fourth or fifth weekend. Other options include a Thesis or Project. Details of these options are outlined in the department handbook.

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#### **COMMUNITY AGENCY COUNSELING - INTRODUCTION**

60 credit hours leading to the Master of Education degree in mental health counseling

The main goal of the program is to prepare counselors for roles in community agencies. Graduates who successfully meet educational requirements are eligible for admission to the examination for the Professional Clinical Counselor license. After successfully passing the exam, graduates are awarded the Professional Counselor license until they have acquired two years of supervised experience in counseling, obtained after the award of the master's degree. They are then awarded the Professional Clinical Counselor license.

The program features a practitioner's orientation, emphasizing theory and skills in counseling (individual, group, and family), human behavior and development, diagnosis and evaluation of mental and emotional disorders, intervention methods, lifestyle and career development, legal and ethical responsibilities, service delivery systems, and specialized training programs.

#### Admissions

In addition to meeting Graduate College admission requirements, the Counselor Education Program requires all applicants to:

- 1. Provide official scores from either the Miller Analogies Test (MAT) or the Graduate Record Examination (GRE);
- 2. Provide two evaluation forms completed by professional colleagues or supervisors; *and*
- 3. Successfully complete the CASAL Department Admissions Test. Dates and times for the test can be found at www.csuohio.edu/casal.

The following program guidelines are for students whose official letter of admission is dated after July 1, 1998. Once admitted to the program with "Regular" graduate status, students are assigned a faculty advisor who helps with planning. Upon admission, students should contact an advisor for a program planning appointment. For students admitted with "Non-Degree" status, course information is available in the departmental office, RT 1419.

Admission to the Counselor Education Program is an academic admission. Students are not fully admitted into the program until they have completed EDE 684, and their work in this course has been reviewed. Thus, this course must be the first taken in the professional counselor education sequence. Other counselor education professional courses may be taken simultaneously, but not before completing this course. If EDE 684 has not been completed, other courses that may be taken concurrently are: EDB 601, EDB 620, EDE 617, EDE 624, EDE 629, EDC 501, and ALD 605.

#### **Non-Degree Graduate Status**

Non-Degree graduate students who wish to change to degree-seeking status must complete an Application for Graduate Admission and meet all admissions requirements before being considered for admission into the counseling program. Admission as a Non-Degree student is not the same as admission to the counseling program. Non-Degree students may enroll in EDB 601, EDB 620, EDE 604, EDE 617, EDE 500, or ALD 605. Once these courses have been completed, Non-Degree students must apply to the degree program through the Graduate Admissions Office before taking more classes.

#### **Transferring Credit**

Up to nine hours of credit may be transferred into the program from another university with appropriate documentation (transcript and college catalog course description) and advisor approval as long as those courses were not used toward a degree already earned. Special forms for this are available from the Education Student Services Center (RT 1401).

#### **Early Field Experience**

All counselor education students are required to document 200 hours of field experiences related to the work of a counselor prior to being admitted to the counseling practicum. Most students are able to accomplish this in their place of employment. The documentation form is available in RT 1419.

#### Clinical and Field Based Experience:

The counseling practicum/internship (EDE 686) and advanced internship (EDE 687) is an intensive, two consecutive semester learning experience of supervised counseling in a field setting. The sequence is offered during the fall and spring. All courses listed (except EDB 601, EDE 604, and EDE 617) are prerequisites. If any of these required courses are not completed prior to the first semester of the practicum/internship, they must be taken concurrently with the first semester of practicum/internship. These requirements are strictly adhered to by the counselor education faculty.

#### **Eligibility for Counseling Practicum**

In order to be eligible to register for practicum/internship (EDE 686), two forms must be submitted by February 1:

- 1. The Early Field Experience (EFE) Documentation Form, and
- 2. The Practicum/Internship Application.

These forms are available in the department office, RT 1419.

# Sequence

EDE 684 Laboratory in Counseling Techniques is the first course taken in the professional counselor education sequence. Other counselor education professional courses may be taken simultaneously, but not before enrolling in this course. If EDE 684 has not been completed, other courses that may be taken concurrently are: EDB 601, EDB 620, EDE 617, EDE 624, EDE 629, EDC 501, and ALD 605. Once EDE 684 has been completed, students may take courses other than those listed above. They should note, however, that some courses have prerequisites, including: EDE 625, EDE 686, EDE 687, EDE 731, EDE 777, EDE 778, and EDE 779. EDE 622 must be taken early in the program prior to practicum.

The Program of Study below reflects the content areas required for the master's degree in Community Agency Counseling. Specific courses listed satisfy indicated content areas required for state licensure. Course work in starred (\*) areas satisfy a College of Education core requirement.

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#### PROGRAM OF STUDY (COMMUNITY AGENCY COUNSELING)

(60 credits)

# 1. Counseling Theory\*

EDE 622 Individual Counseling: Theory and Process (three credits)

# 2. Counseling Techniques

<u>EDE 684</u> Laboratory in Counseling Techniques (three credits)-first course to be taken after acceptance into the Counseling Program

## 3. Agency Practice

EDE 629 Community Agency Counseling (three credits)

#### 4. Human Growth and Development\*

Choose one of the following:

EDC 501 Child Development (three credits)

EDB 620 Psychology of the Adolescent Learner (three credits)

ALD 605 Psychology of the Adult Learner (three credits)

#### 5. Social and Cultural Foundations\*

EDE 604 Cultural and Social Foundations in Counseling (three credits)

#### 6. Group Dynamics, Process, and Theory

EDE 623 Group Process and Practice (three credits)

Note: Active involvement in a personal growth group is usually a required part of this course.

#### 7. Lifestyle and Career Counseling

EDE 624 Career Development and Information Services (three credits)

# 8. Appraisal of the Individual

EDE 611 Appraisal in Counseling (two credits)

### 9. Professional and Ethical Responsibilities

EDE 617 Ethical and Legal Issues in Counseling (three credits)

#### 10. Research and Evaluation\*

EDB 601 Educational Research (three credits)

ETE 501 Technology Strand (two credits)

### 11. Supervised Practicum and Internship

<u>EDE 686</u> Practicum/Internship in Community Agency Counseling (three credits)

<u>EDE 687</u> Advanced Internship in Community Agency Counseling (three credits)

#### 12. Psychopathology and Personality

EDE 773 Theories of Personality and Counseling (four credits)

#### 13. Evaluation of Mental and Emotional Disorders

At least one of the following:

EDE 612 Assessment for Counselors (three credits)

EDE 777 Individual Intelligence Testing (three credits)

EDE 779 Personality Assessment for Counselors (three credits)

#### 14. Diagnosis of Mental and Emotional Disorders

EDE 731 Psychopathology and Diagnosis for Counselors (four credits)

### Elective:

<u>EDE 771</u> Using the Current Diagnostic and Statistical Manual of Mental Disorders (two credits)

#### 15. Treatment of Mental and Emotional Disorders

EDE 778 Psychopharmacology for Counselors (three credits)

#### Electives:

EDE 732 Seminar in Leading Interactive Groups (three credits)

EDE 781 Internship in Counseling (three credits)

EDE 782 Internship in Diagnosis and Testing (three credits)

#### 16. Interventions and Prevention of Mental and Emotional Disorders

EDE 625 Case Studies and Interventions (three credits)

And at least one of the following:

EDE 558 Mediation and Dispute Resolution (two credits)

EDE 633 Women and Mental Health (three credits)

EDE 738 Family Counseling (three credits)

EDE 770 Counseling Children and Adolescents (three credits)

Note: An official Program of Study contract indicating all required and elective courses must be submitted to the advisor no later than the 30th hour of course work. Since a copy of this form is used to determine eligibility for graduation, it is important to submit this form promptly.

#### **Exit Requirements**

A culminating activity is required of all students. Most students choose to take the Comprehensive Examination. It is normally completed during the last semester in which the student is taking course work. Comprehensives are scheduled for the College once each academic semester, usually on the fourth or fifth weekend. Other options include a thesis or project. Details of these options are outlined in the department handbook.

For further information about the Counselor Education Program, contact the Department of CASAL at (216) 687-4613.

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education: master of education:

# curriculum and instruction





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**Program of Studies** 

EARLY CHILDHOOD

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**CURRICULUM & INSTRUCTION** 

**URBAN SECONDARY** 

TEACHING (INITIAL)

LICENSURE)

**Program Description** 

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SPECIAL EDUCATION

**Purpose** 

**Program of Studies** 

**Exit Requirement** 

ADDENDA-EDUCATIONAL

**TECHNOLOGY** 

#### Curriculum and Instruction

#### INTRODUCTION

Curriculum and Instruction Programs Leading to the Master of Education degree

The program in Curriculum and Instruction is designed for teachers at all levels who wish to further develop their pedagogical expertise and improve their skills in educationally related disciplines. The College of Education conceptual model for Teacher Education is the **Teacher as a Responsive**, **Reflective Professional: A Partner in Learning**. Cleveland State University teacher education graduates are known for distinctive abilities that reflect the four knowledge bases that compose this model: inquiry, partnership, contextualism, and professionalism.

All Curriculum and Instruction programs require the College Core courses, a Curriculum and Instruction core, and an area of specialization. The following specializations currently are available in the Curriculum and Instruction program:

- Educational Technology
- Early Childhood Education
- Elementary Education
- Educational Research
- Gifted and Talented Learners
- Health and Physical Education
- Literacy Development and Instruction (Reading, TESOL, Adult Literacy)
- Secondary Education (all content fields, including Art, English, Social Sciences, Modern Languages, Mathematics, and Science)
- Urban Secondary Teaching (14-month master's program)
- Special Education: Early Childhood/Special Education, Mild/Moderate Educational Needs, and Moderate/Intensive Educational Needs.

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#### **EDUCATIONAL TECHNOLOGY**

(33 credits)

# **Purpose**

This specialization is for educators who wish to develop and enhance their ability to use computers and related informational technologies in a regular

classroom setting. Students explore the use of a variety of hardware and software in the K-12 setting, including the use of distance education technologies (both web-based and video). For students certified or licensed as classroom teachers in Ohio, this program also grants the Ohio computer/technology teaching endorsement.

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# **Program of Studies**

# **College Core**

(11 credits)

# 1. Educational Research and Technology

EDB 601 Educational Research (three credits)

ETE 501 Technology Strand (two credits)

#### 2. Social Foundations

Select one of the following courses:

<u>EDB 604</u> Social Issues and Education (three credits)

EDB 606 Philosophy of Education (three credits)

EDB 608 School and Society in the American Past (three credits)

<u>EDB 609</u> Comparative and International Education (three credits)

### 3. Human Development

Select one of the following courses:

EDC 501 Child Development (three credits)

EDB 620 Psychology of the Adolescent Learner (three credits)

EDB 628 Psychology of Learning and Instruction (three credits)

# **Curriculum and Instruction Core**

(three credits)

EDB 612 Curriculum Theory and Instruction (three credits)

#### **Specialization**

(19 credits)

ETE 565 Technology in the Classroom (four credits)

ETE 566 Technological Change and Schools (four credits)

ETE 567 Telecommunications in Education (four credits)

ETE 568 Programming the Computer (four credits)

ETE 595 Seminar in Computer Uses in Education (three credits)

#### **Culminating Activity**

Select one of three options: comprehensive examination, project, or thesis.

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#### EARLY CHILDHOOD EDUCATION

(39 credits)

#### **Purpose**

This specialization provides advanced study in the field of early childhood education and includes University and field-based experiences, which focus on the development and education of children from ages three to eight, including typically developing children and those with mild and moderate disabilities.

While primarily intended to meet the professional development needs of practicing early childhood educators, qualified applicants who possess a baccalaureate degree in another teaching field or related discipline may apply required course work toward a provisional teaching license in early childhood. Eligibility for these credentials demands further study beyond course work needed for the master's degree as well as successful completion of any Praxis II examinations required by the State of Ohio.

Built around a common College Core, specialized course work in early childhood education is integrated with required offerings in educational research, social foundations, and human development as outlined below. Taken as a whole, the curriculum focuses on the development of practices associated with high quality early childhood education for young children representing diverse cultures and abilities. These practices respect all children and provide them with equal opportunity to develop and grow emotionally, socially, physically, and intellectually.

For further information, contact the Department of Teacher Education at (216) 687-4600.

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#### **Program of Studies**

# **College Core**

(11 credits)

# 1. Educational Research and Technology

EDB 601 Educational Research (three credits)

ETE 501 Technology Strand (two credits)

#### 2. Social Foundations

Select one of the following courses:

EDB 604 Social Issues and Education (three credits)

EDB 606 Philosophy of Education (three credits)

<u>EDB 608</u> School and Society in the American Past (three credits)

EDB 609 Comparative and International Education (three credits)

# 3. Human Development

EDC 501 Child Development (three credits) *Note: ECE 511 may be substituted for EDC 501, with advisor permission, by students who have completed an equivalent course.* 

# **Specialization**

(28 credits)

ECE 500 Foundations of Early Childhood Education (four credits)
---

<u>ECE 501</u> Developmental Curriculum for Early Childhood Education (four credits)

ECE 502 Teaching Methods in Early Childhood Education (four credits)

ECE 503 Teaching Children with Mild and Moderate Disabilities (three credits)

ECE 695 Seminar in Early Childhood Education (four credits)

EDC 500 Diversity in Educational Settings (three credits)

EST 570 Practicum in Early Childhood Education (three credits)

Elective (three credits minimum, selected with advisor)

The additional courses listed below represent those required to attain an Early Childhood Education license as a first teaching credential at the graduate level.

ECE 512 Collaboration with Families and Professionals in Early Childhood Settings (four credits)

ECE 514 Expressive Arts in Early Childhood Education (three credits)

<u>ECE 515</u> Mathematics Instruction and Assessment in Preschool and the Primary Grades (three credits)

ECE 516 Social Studies Instruction and Assessment in Preschool and the Primary Grades (three credits)

<u>ECE 517</u> Science Instruction and Assessment in Preschool and the Primary Grades (three credits) <u>EDL 500</u> Phonics Assessment and Instruction (three credits)

<u>EDL 501</u> Beginning and Intermediate Reading Instruction and Assessment (three credits)

EDL 511 Emergent Literacy (three credits)

EDL 512 Literature-based Reading Methods for Children (three credits)

ESE 515 Assessing Young Children (four credits)

EST 580 Student Teaching in Early Childhood Education (four credits)

PED 316 Health and Physical Education for Classroom Teachers (three credits)

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# **Exit Requirement**

Select one of three options: comprehensive examination, project, or thesis.

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#### **ELEMENTARY EDUCATION**

(33 credits)

#### **Purpose**

Designed to provide continued professional development to experienced teachers, the elementary education specialization is intended for individuals who wish to extend their understanding of teaching-learning processes and the situational contexts in which they occur. This specialization offers opportunity for the in-depth study of current theory, research, and practice, particularly related to the design and delivery of effective instruction in the primary and upper elementary or middle school grades. While built around a common College Core, degree requirements are sufficiently flexible to allow for individual needs and interests. For example, students may use elective hours to expand their knowledge of one or more academic disciplines in the elementary curriculum; investigate new teaching methods and technologies; explore the educational needs of a particular age range or group of learners; or expand their understanding of the cognitive, affective, social, cultural, and motivational dimensions of learning. Students also may develop further skills to assume greater leadership roles in the planning, delivery, management, and evaluation of instructional programs.

For further information, contact the Department of Teacher Education at (216) 687-4600.

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# **Program of Studies**

# **College Core**

(11 credits)

# 1. Educational Research and Technology

EDB 601 Educational Research (three credits)
ETE 501 Technology Strand (two credits)

#### 2. Social Foundations

Select one of the following courses:

EDB 604 Social Issues and Education (three credits)

EDB 606 Philosophy of Education (three credits)

EDB 608 School and Society in the American Past (three credits)

EDB 600 Comparative and International Education (three credits)

<u>EDB 609</u> Comparative and International Education (three credits)

# 3. Human Development

Select one of the following courses:

EDC 501 Child Development (three credits)EDB 628 Psychology of Learning and Instruction (three credits)

#### **Curriculum and Instruction Core**

(three credits)

EDB 612 Curriculum Theory and Instruction (three credits)

#### **Specialization**

(19 credits)

EDC 500 Diversity in Educational Settings (three credits)

*Select one of the following courses:* 

EDC 512 Instructional Development in Foreign Language Education (four

credits)

EDC 513 Instructional Development in English Language Arts Education (four credits)

EDC 514 Instructional Development in Art Education (four credits)

EDC 515 Instructional Development in Mathematics Education (four credits)

EDC 516 Instructional Development in Social Studies Education (four credits)

EDC 517 Instructional Development in Science Education (four credits)

#### Electives:

(12 credits minimum, selected with advisor)

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# **Exit Requirements**

Select one of three options: comprehensive examination, project, or thesis.

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arts and humanities

business administration

education

engineering

health professions

natural sciences

social and behavioral

sciences

urban affairs

CERTIFICATE AREAS

ADDENDA

education: master of education:

# educational administration





[EDUCATIONAL ADMINISTRATION - INTRO]
[PROGRAM OF STUDY]

SUPERVISION PROGRAM INTRO
PROGRAM OF STUDY

# **EDUCATIONAL ADMINISTRATION PROGRAM - INTRODUCTION**

34 credit hours leading to the Master of Education degree, plus 12 postmaster's credits for licensure

The Cleveland State University educational administration and supervision program is based on a conceptual framework of the **Administrator/ Supervisor as a Visionary Practitioner**. Graduates achieve outcomes reflecting the five knowledge bases that compose this model: organizational change, relational, developmental, contextual, and ethical. These knowledge bases are applied to the programs within the environments of urban and suburban schools, which are culturally diverse and include students with disabilities.

The program enables participants to gain the conceptual, technical, and theoretical knowledge in the human resources area needed to assume principalship or other entry-level administrative positions. Key areas explored in the program are curriculum, supervision, guidance, personnel administration, community relations, school management, and school law. In addition to a master's degree, a candidate for a professional administrator license must complete two years of successful teaching under a professional license at the age levels for which the principal licensure is sought; a State Board of Education examination; an entry-level program; and such other requirements as the State of Ohio may establish.

The recently revised regulations governing licensing of school administrative personnel in the State of Ohio may change course requirements. Please contact the Department of Counseling, Administration, Supervision, and Adult Learning (CASAL) at (216) 687-4613 for further information.

Interested applicants should specify the Master of Education, with a specialization in principal preparation, on the Application for Graduate

Admission.

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# PROGRAM OF STUDY (EDUCATIONAL ADMINISTRATION PROGRAM)

#### Core

(11 credits)

#### 1. Educational Research and Technology

EDB 601 Educational Research (three credits)

ETE 501 Technology Strand (two credits)

#### 2. Social Foundations

One of the following courses:

EDB 604 Social Issues and Education (three credits)

EDB 606 Philosophy of Education (three credits)

EDB 608 School and Society in the American Past (three credits)

<u>EDB 609</u> Comparative and International Education (three credits)

#### 3. Human Development

One of the following courses:

EDC 501 Child Development (three credits)

EDB 620 Psychology of the Adolescent Learner (three credits)

EDB 628 Psychology of Learning and Instruction (three credits)

# **Program Requirements**

(23 credits)

The Master of Education with a specialization in Administration includes the following requirements:

EDB 612 Curriculum Theory and Instruction (three credits)

ADM 613 School Law (four credits)

ADM 614 Administration Principles and Practice (four credits)

<u>ADM 615</u> Instructional Leadership and Pupil Personnel Administration (four credits)

ADM 618 Staff Personnel Administration (two credits)

<u>ADM 642/742</u> Collective Bargaining and Contract Management (two credits)

ADM 676 Clinical Supervision and Professional Development (four credits)

#### Post-master's Licensure

(12 credits)

1. **Principal** (ages three-14)

ADM 681 Elementary School Administration: Theory and Practicum II (two credits), *and*ADM 682 Middle School Administration: Theory and Practicum II (two credits), *or* 

**Principal** (ages eight-21)

ADM 682 Middle School Administration: Theory and Practicum II (two credits), *and*ADM 683 Secondary School Administration: Theory and Practicum II (two credits)

- 2. ADM 643/743 School Finance and Economics (four credits)
- 3. ADM 677 Legal and Policy Issues in Education (four credits)

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#### SUPERVISION PROGRAM - INTRODUCTION

32 credit hours leading to the Master of Education degree

The Cleveland State University educational administration and supervision program is based on a conceptual framework of the **Administrator/ Supervisor as a Visionary Practitioner**. Graduates achieve outcomes reflecting the five knowledge bases that compose this model: organizational change, relational, developmental, contextual, and ethical. These knowledge bases are applied to the programs within the environments of urban and suburban schools, which are culturally diverse and include students with disabilities.

The purpose of this program is to prepare department chairs, team leaders, principals, and student teaching supervisors to develop knowledge and competence in supervising adults and administering material resources to achieve the school's instructional ends. The program emphasizes curriculum development and assessment, instructional support for teachers, analysis of effective teaching, in-service program design, leadership, group dynamics, and change strategies.

Graduates of the program may be eligible for licensure as Administrative Specialists in Curriculum, Supervision and Professional Development.

The recently revised regulations governing licensing of school administrative personnel in the State of Ohio may change course requirements. Please contact the Department of Counseling, Administration, Supervision, and Adult Learning (CASAL) at (216) 687-4613 for further information.

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#### PROGRAM OF STUDY (SUPERVISION PROGRAM)

#### **College Core**

(11 credits)

# 1. Educational Research and Technology

EDB 601 Educational Research (three credits)

ETE 501 Technology Strand (two credits)

#### 2. Social Foundations

Select one of the following courses:

EDB 604 Social Issues and Education (three credits)

EDB 606 Philosophy of Education (three credits)

EDB 608 School and Society in the American Past (three credits)

EDB 609 Comparative and International Education (three credits)

# 3. Human Development

Select one of the following courses:

EDC 501 Child Development (three credits)

EDB 620 Psychology of the Adolescent Learner (three credits)

EDB 628 Psychology of Learning and Instruction (three credits)

#### **Supervision Program Requirements**

(21 credits)

EDB 612 Curriculum Theory and Instruction (three credits)

ADM 613 School Law (four credits)

<u>ADM 615</u> Instructional Leadership and Pupil Personnel Administration (four credits)

ADM 618 Staff Personnel Administration (two credits)

ADM 676 Clinical Supervision and Professional Development (four credits)
ADM 680 Supervision Practicum (two semesters, two credits per semester)

Application and permission required before registration.

# **Exit Requirements**

Select one of the three options:

Comprehensive examination, project, or thesis.

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arts and humanities

business administration

education

engineering

health professions

natural sciences

social and behavioral

sciences

urban affairs

CERTIFICATE AREAS

ADDENDA

education: master of education:

# sports management / exercise science





SPORTS MANAGEMENT

EXERCISE SCIENCE

EXERCISE SCIENCE
(combined)

#### SPORTS MANAGEMENT

33 credit hours leading to the Master of Education degree

#### Introduction

In this program, students develop skills to organize and administer a variety of programs from professional and amateur sport to physical and recreation programs. These programs are in demand in a number of settings, including private, public, corporate, agency, and community facilities and organizations.

#### **Program of Study**

#### **College Core**

(12 credits)

EDB 601 Educational Research (three credits)

ETE 501 Technology Strand (two credits)

HPR 606 Human Development (three credits)

PED 565 Law and Policy Studies in Sport and Physical Education (four

credits)

# **Specialization**

(21 credits)

PED 560 Program Development and Management (four credits)

PED 566 Sport Facility Management (three credits)

PED 567 Sports Marketing (three credits)

HPR 682 Practicum (five credits)

Electives:

*Select two of the following courses (six credits):* 

<u>PED 551</u>	Applied Sport Psychology (three credits)
<u>PED 554</u>	Sport Sociology (three credits)
<u>PED 561</u>	Sport Governance (three credits)
<u>PED 570</u>	Seminar in Training and Conditioning (three credits)
<u>PED 571</u>	Biomechanics of Sport and Fundamental Skills (three credits)
MLR 501	Management and Organizational Behavior (three credits)
<u>ACT 501</u>	Financial Accounting (three credits)
ECN 503	Economic Concepts (three credits)

# **Culminating Activity**

Select one of three options: comprehensive examination, project, or thesis.

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#### **EXERCISE SCIENCE**

33 credit hours leading to the Master of Education degree

#### Introduction

In this program students develop skills to organize and lead exercise programs in a variety of settings, including cardiac rehabilitation centers, corporate- and hospital-based wellness programs, and private physical fitness enterprises. The primary focus of study is exercise physiology and its applications to physical activity programs.

# **Program of Study**

# **College Core**

(12 hours)

EDB 601	Educational Research (three credits)
ETE 501	Technology Strand (two credits)
<u>HPR 606</u>	Human Development (three credits)
PED 565	Law and Policy Studies in Sport and Physical Education (four
credits)	

#### **Specialization** (21 credits)

<u>PED 570</u>	Seminar in Training and Conditioning (three credits)
<u>PED 572</u>	Physiology of Aging (three credits) or
PED 677	Prevention and Rehabilitation of Cardiovascular Disease (three

credits)

PED 675 Physiology of Human Performance I (four credits) (Prerequisites:

Courses in human anatomy and physiology, or equivalents)

<u>PED 676</u> Physiology of Human Performance II (four credits) (Prerequisite:

PED 675)

<u>HPR 680/681</u> Practicum (three or four credits) (register for four credits if elective totals three)

Elective: Select one of the following courses (three to four credits):

PED 551 Applied Sport Psychology (three credits)

<u>PED 560</u> Program Development and Management (four credits)

PED 571 Biomechanics of Sport and Fundamental Skills (three credits)

PED 572 Physiology of Aging (three credits) (if not taken as a requirement)

<u>PED 677</u> Prevention and Rehabilitation of Cardiovascular Disease (three

credits) (if not taken as a requirement)

<u>HED 570</u> Pathophysiology of Disease (four credits)

HED 575 Nutrition and Physical Activity (three credits)

# **Culminating Activity**

Select one of three options: comprehensive examination, project, or thesis.

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### **SPORTS MANAGEMENT AND EXERCISE SCIENCE (combined)**

44 credit hours leading to the Master of Education degree

#### Introduction

This specialization offers a combination of the Sports Management and Exercise Science programs described above. Students completing this combined program are prepared to organize, administer, understand, and design exercise programs for physical fitness-related environments. Students who wish to administer programs and manage facilities in a fitness, conditioning, or wellness setting should consider this program.

#### **Program of Study**

### **College Core**

(12 credits)

EDB 601	Educational Research (three credits)
ETE 501	Technology Strand (two credits)
HPR 606	Human Development (three credits)
<u>PED 565</u>	Law and Policy Studies in Sport and Physical Education (four
credits)	

# **Specialization**

(32 credits)

- <u>PED 560</u> Program Development and Management (four credits)
- PED 566 Sport Facility Management (three credits)
- <u>PED 675</u> Physiology of Human Performance I (four credits) (Prerequisites:

Courses in human anatomy and physiology, or equivalents)

<u>PED 676</u> Physiology of Human Performance II (four credits) (Prerequisite: PED 675)

<u>HPR 681/682</u> Practicum (four or five credits) (register for five credits if electives total 12)

Electives: Select at least two courses in each area (12 to 13 credits):

#### **Exercise Science Courses**

PED 570 Seminar in Training and Conditioning (three credits)
 PED 571 Biomechanics of Sport and Fundamental Skills (three credits)
 PED 572 Physiology of Aging (three credits)
 PED 677 Prevention and Rehabilitation of Cardiovascular Disease (three credits)
 HED 570 Pathophysiology of Disease (four credits)
 HED 575 Nutrition and Physical Activity (three credits)

#### **Sports Management Courses**

- <u>PED 551</u> Applied Sport Psychology (three credits)<u>PED 554</u> Sport Sociology (three credits)
- PED 561 Sport Governance (three credits)
- PED 567 Sports Marketing (three credits)
- MLR 501 Management and Organizational Behavior (three credits)
- ACT 501 Financial Accounting (three credits)
- ECN 503 Economic Concepts (three credits)

# **Culminating Activity**

Select one of three options: comprehensive examination, project, or thesis.

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business administration

education

engineering

health professions

natural sciences

social and behavioral

sciences

urban affairs

CERTIFICATE AREAS

ADDENDA

# art history





[ART FACULTY]
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[RESEARCH PROGRAM]
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Master of Arts in History - Art History Specialization

ART FACULTY

**Professors:** Associate Professors:

Thomas E. Donaldson

Masumi Hayashi John Hunter Marvin H. Jones

Walter C. Leedy, Jr. Kenneth Nevadomi

Kathy Curnow George A. Mauersberger, *Chair* 

Richard D. Schneider

**Assistant Professors:** 

Irina A. Koukhanova Jennifer Visocky-O'Grady

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#### INTRODUCTION

The History Department and the Art Department offer an interdisciplinary program that leads to a Master of Arts degree in History with a specialization in art history. The program provides a comprehensive approach to the integral study of history and art and allows advanced training that broadens and deepens the student's knowledge about the relationship between art and history.

The program is broad in scope rather than highly specialized. Depth in a specialized area is achieved through independent study, thesis, and related courses in history or approved electives. The program is designed to

accommodate both full-time students and those students who are currently working but are free for classes after 4 p.m. Due to the interdisciplinary nature of the program and the number of credits required, it is expected that the student will normally take two years (or longer if part-time) to complete the degree.

Although the Art Department is responsible for admission decisions for the art history specialization, the History and Art departments jointly supervise thesis advising and approve applications for graduation.

For non-degree students, graduate courses in art education and studio art also are available.

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#### **FACULTY & RESEARCH PUBLICATIONS**

All members of the graduate faculty participate in the activities of local, national, and international art and historical associations and are active in research and publication. In recent years, faculty members have made important scholarly contributions in the form of books, articles, and catalogs on such diverse topics as African ivories, African perspectives on 15th- and 16th-century art, Buddhist sculpture, Cleveland architecture and the city's struggle for self-identity, Gothic fan-vaulting, Hindu temple art, Chartres Cathedral, Italian Renaissance drawing and the iconography of Cardinals, Jaina manuscript painting, 19th-century sculpture, Hindu and Buddhist iconography, New World folk art, Indian mandalas, Tantric art and erotic rituals, navigation and maritime goddesses and serpent deities of Orissa, a historic perspective on Cleveland's landmark Terminal Tower, and a computerized archive on medieval monumental art.

#### **Career Information**

The Art History program prepares students for entry into doctoral programs in art history, for secondary-level teaching in art history and cultural studies, archival management, historical preservation, art gallery and art museum curatorial employment, art consulting, and slide-library work.

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#### **ADMISSION REQUIREMENTS**

In addition to Graduate College requirements for admission, applicants

intending to pursue the art history specialization must have:

- 1. At least a 3.00 grade-point average in history/art history courses.
- 2. An undergraduate major in history/art history or a sufficient number of undergraduate courses in history/art history to indicate probable success in a graduate program. Under special circumstances, an applicant may make up undergraduate deficiencies by enrolling as a non-degree graduate student. For some students, additional courses or study may be required if not completed as an undergraduate.
- 3. Completed the equivalent of five undergraduate quarters or four semesters of a foreign language, preferably German or French; however, a language of immediate pertinence to the applicant's chosen field of study is acceptable. An examination in reading and translation in the language must be taken during the first 12 hours of graduate study.

Results of the Subject Test of the Graduate Record Examination are desired from all applicants and are required of applicants who do not meet the minimum grade-point average set for admission to the Graduate College.

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#### FINANCIAL ASSISTANCE

A number of assistantships are awarded on a competitive basis to qualified students. Assistantships provide tuition support and a stipend in exchange for 10 hours of service per week in the research and instructional programs of the faculty. Interested students should apply to the Graduate Advisor in advance of the academic year.

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#### RESEARCH PROGRAM

Graduate study enables participation in the research of the graduate faculty, which is sponsored by local, national, and international agencies and is widely published in leading professional journals and books.

Graduate student research is often presented at regional and national conferences.

Graduate students have access to the Ingalls Library of The Cleveland Museum of Art, one of the foremost collections in the nation, and to the considerable collections of the Cleveland Public Library. Excellent interlibrary loan, OCLC facilities, and general computer-research services on campus assure rapid acquisition of additional material. Computer applications to the history of art are encouraged and well supported by the College of Arts and Sciences.

Special exhibits and shows in the Cleveland State University Art Gallery afford graduate students experience in curating and publishing exhibition catalogs.

Additional practical experience and funding is facilitated by internships at the Museum of Art, the Western Reserve Historical Society, and local art galleries.

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#### **DEGREE REQUIREMENTS**

Upon admission to the program, the student must immediately contact the Graduate Advisor in the Art Department to develop a general plan of study which is recorded on a program planning form. This form provides the basis for subsequent consultations.

Students may pursue either of two plans for the art history specialization. Plan A requires the writing of a thesis and is intended primarily for the student who plans to study for a Ph.D. in Art History. Plan B is intended primarily for the student seeking only an M.A. degree and requires additional course work in lieu of the thesis. Plan B is designed for breadth and flexibility rather than specialized concentration. Prospective students select a program in consultation with the Graduate Advisor. Students in plans A and B must complete their approved courses with at least a 3.00 grade-point average, and all students must earn a minimum of 20 hours of credit at the 600 level.

#### Plan A (36 hours)

- 1. 16 hours in 500- to 600-level art history including at least one art seminar (ART 695) and a maximum of four hours of independent study (ART 697).
- 2. 12 hours in 500- to 600-level history courses, including HIS 601 and one reading seminar.
- 3. Eight hours of thesis (<u>ART 699</u>). Students anticipating further study are encouraged to begin acquiring a second foreign language in order to meet the Ph.D. program requirements at other universities.

Plan B (40 hours)

- 1. 24 hours in 500- to 600-level art history, including two art seminars (ART 695) and a maximum of four hours of independent study (ART 697).
- 2. 16 hours in 500- to 600-level history courses, including <u>HIS 601</u>, <u>HIS 695</u>, and one reading seminar.

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#### **EXIT REQUIREMETS**

Each candidate, whether pursuing Plan A or B, must prepare a 20-minute presentation as an exit requirement. Candidates also are expected to attend and participate in their colleagues' presentations. These slide lectures should demonstrate an original approach to a well-defined topic developed from one of the student's seminar papers. They afford the candidate the opportunity to refine and distill research, following the guidelines of professional art historical society meetings.

For Plan A candidates, the thesis committee must consist of two faculty advisors from the Art Department, one from the History Department, and one member external to the degree program. The guidelines for the thesis are decided on by agreement between the student and the committee. The committee notifies the Graduate Advisor when the thesis has been completed successfully.

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arts and humanities

business administration

education

engineering

health professions

natural sciences

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urban affairs

CERTIFICATE AREAS

ADDENDA

social and behavioral sciences:

# psychology - m.a.







THE FACULTY
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FOR MORE INFORMATION

# CLINICAL/COUNSELING PSYCH PROG

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**Second Year** 

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**Fieldwork Placement** 

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#### Master of Arts in Psychology

#### **Department of Psychology**

Chester Building 158 (216) 687-2544 www.csuohio.edu/psy/grad.html

THE CONSUMER-INDUSTRIAL RESEARCH PROGRAM

#### Introduction

The Consumer/Industrial Research program (CIRP) prepares students to conduct applied research in business and institutional settings. Students acquire the conceptual tools, research methods, and data analysis techniques related to understanding consumers' product purchasing, advertising responses, brand image, etc.

The second emphasis of the Consumer/Industrial Research Program is the application of research methods and data analysis skills within an organization. Therefore, training is given in job satisfaction surveys, organizational climate surveys, evaluation of new organizational programs, etc.

The base for both areas of applied research is the development of the ability to design applied research, gather and analyze data, and determine the meaning and usefulness of the results. Therefore, there is an emphasis on statistics and research-methods courses. The content courses in consumer and industrial-organizational psychology build on these courses for specific applications. Electives may be used to augment both research skills and content areas. This specialization is designed to be completed in one and one-half to two years and culminates with a thesis or an applied research experience. While it is expected that all students will have the opportunity to participate in the solution of actual problems under the guidance of faculty, selected students also have the opportunity for field placements in business settings.

The first year of the Consumer/Industrial Research specialization typically consists of the program core < quantitative methods, research design, field research methods, and substantive courses in industrial-organizational psychology and consumer behavior. During the second year, the student typically enrolls in elective courses while completing the Thesis or Applied Research Project.

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#### **Faculty Research**

Faculty members have contributed over 200 publications, including books, book chapters, journal articles (e.g., in *Journal of Marketing Research, Journal of Applied Psychology, Journal of Vocational Behavior, Multivariate Behavioral Research, Academy of Management Review*), technical reports, and convention papers, as well as articles in trade periodicals, such as *Agri Marketing and Marketing News*. They have served as reviewers for over a dozen professional journals. Illustrative studies concern occupational stress, measurement of consumer preferences, reactions to advertising, personality aspects of occupational choices, development of performance appraisal systems, and computer modeling of individuals' purchase decisions.

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#### **Career Information**

The program prepares students to work in organizations that need "people" information, whether it concerns consumers or organizational members. Students leaving this program are capable of designing and executing research to answer such questions in a manner that will contribute to the functioning of the organization. In the area of consumer behavior, graduates are suited to market research and public-opinion research positions and to program evaluation and assessment in public agencies. Additionally, in the industrial-organizational realm, they are prepared for employee surveys, training-effectiveness evaluation, and other such research.

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#### **Admission Requirements**

Applicants for admission to the Consumer/Industrial Research specialization must submit the following:

- 1. An Application for Graduate Admission;
- 2. Scores on the GRE verbal and quantitative tests;
- 3. A personal statement;
- 4. Undergraduate transcripts; and
- 5. Two letters of recommendation.

The application deadline is April 15, although applications received after this date will receive consideration. Among the criteria used by the committee for selection are the usual indicators of academic promise--prior grades and test scores, as well as letters of recommendation--plus indications of particular promise based on skills, personal characteristics, and experiences relevant to work in the Consumer/Industrial Research specialization. Additionally, the committee expects candidates to have completed at least six credits in psychology and to have mastered the basics of statistical analysis. Preferred candidates will have a strong statistical background, prior experience, and a record of high achievement.

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#### **Degree Requirements**

(Consumer/Industrial Research Specialization)

The program requires satisfactory completion of a 43 credit hour sequence, including Thesis or Applied Research.

# **Core A.** Core Content Requirements (19 credits)

All of the following must be completed:

PSY 518 Personnel Psychology, or

PSY 522 Organizational Psychology

PSY 519 Consumer Psychology

PSY 593 Special Topics in Psychology: Advanced Organizational Psychology,

or

PSY 593 Special Topics in Psychology: Job Analysis and Performance

Appraisal

PSY 620 Advanced Consumer Research

MKT 501 Marketing Theory and Practice

### Core B. Methodological Requirements

(12 credits)

All of the following must be completed:

PSY 511 Univariate Statistics and Experimental Methodology, or

COM 512 Communication Research Methods

PSY 512 Field Research Methodology

PSY 611 Advanced Data Analysis with Computer Applications, or

COM 531 Multivariate Statistical Methods

#### **Core C.** Research Requirements

(four credits)

PSY 698 Applied Research Project, or

PSY 699 Research and Thesis

Electives (eight credits)

Select from the following:

PSY 518 Personnel Psychology

PSY 522 Organizational Psychology

PSY 525 Social Psychology

PSY 562 Learning, Memory, and Cognition

PSY 582 Personality Theory and Research

PSY 590 Consumer Psychology Internship

PSY 596 Special Problems in Psychology

**COM 540** Persuasive Communication and Campaigns

MLR 640 Performance Appraisal and Compensation Systems

MKT 602 Marketing Research

Other courses in Marketing, Operations Management and Business Statistics, Management and Labor Relations, Communication, and Psychology are possible for elective credit, subject to approval by the CIRP Faculty Committee.

#### Thesis or Applied Research.

Students completing a thesis should take four credit hours of <u>PSY 699</u> Research and Thesis. Students doing applied research should take four credit hours of <u>PSY 698</u> Applied Research Project.

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#### **Exit Requirements**

Upon completion of the core courses, a student submits a thesis or applied research proposal to a research committee of faculty selected by the student and faculty advisor. With committee approval, the student carries out his or her research under the direction of the faculty advisor. Upon acceptance of the completed thesis or applied research project by the committee, the student is awarded the M.A. degree. Return to top

#### **DIVERSITY MANAGEMENT PROGRAM**

The Diversity Management Program is designed for consultants, human resource personnel, mental health professionals, business executives and managers, educators and administrators, and other professionals who confront the challenges and opportunities presented by the diversity of individuals inherent in American society. The curriculum provides students with theoretical grounding in psychology as well as specific skills necessary to assess individual and systemic issues that arise in organizations, to facilitate the interpersonal and group dynamics that accompany efforts to resolve conflict, to foster mutual respect and acceptance, and to promote constructive social change. The two-year, 36-semester-hour program combines research findings with theory and practice through course work firmly rooted in the empirical tradition of psychology.

The Diversity Management Program has an innovative curriculum that combines traditional-format course work, directed study, and nontraditional-format courses designed for students holding full-time jobs. The latter courses are offered throughout the first year in segments consisting of intensive three-day "course components."

The first year provides the foundation work of the curriculum. Basic theory and research in social psychology and diversity psychology are examined, as are group dynamics, multicultural competencies, and organizational and community development and change. In the second year, theories and methods of intervention are applied to actual issues through 1) a six-month supervised Fieldwork Placement and 2) an in-depth examination of a selected topic in diversity psychology that culminates in a thesis and an oral presentation.

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#### **Faculty Research**

Faculty members involved with the Diversity Management Program possess extensive experience and training in issues concerned with human behavior, interactions, and systems. As nationally known educators and consultants, they have written and presented widely in the areas of diversity management and consultation, racial identity development, counseling diverse populations, legal and ethical issues affecting intervention, performance appraisal, team building, sexual harassment, conflict resolution, systems change strategies, and executive assessment and development.

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#### **Admission Requirements**

Applicants to the Diversity Management Program must:

- 1. Hold a bachelor's degree;
- 2. Complete both the Graduate College and department application forms;
- 3. Submit academic transcripts for all colleges and universities attended;
- 4. Submit two letters of recommendation; and
- 5. Complete the Personal Statement Form, which includes:
  - a. A brief biographical sketch noting events or experiences that provide supportive evidence that the applicant is an appropriate candidate for the degree in Diversity Management.
  - b. A description of the applicant's goals and interests in Diversity

Management and how the M.A. program will facilitate achievement of those goals.

All applicants must demonstrate a firm foundation in the basic principles of psychology. Applicants who lack this background but whose candidacy for admission is strong in other respects may be offered entrance to the program contingent on remediation of deficiencies. In addition, applicants with an undergraduate grade-point average below 2.75 must provide scores at the 50th percentile or better on the GRE (general and subject).

Applicants are admitted for study beginning in fall term. While there is no formal application deadline, applications are reviewed as they are completed and admission decisions are made on a "rolling" basis. Early application is encouraged. To ensure consideration, contact the program director by May 31.

Submit all application materials to the Graduate Admissions Office.

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#### **Degree Requirements**

(Diversity Management Program)

The nontraditional-format course work is indicated in the outline of the curriculum below. All courses are four credits.

#### First Year

(16 credits)

PSY 525 Social Psychology

PSY 573 Group Dynamics

PSY 605 Human Services Consultation and Intervention

PSY 672 Multicultural Psychology and Diversity Practicum

#### **Second Year**

(20 credits)

PSY 518 Personnel Psychology

PSY 522 Organizational Psychology

PSY 690 and

PSY 691 Fieldwork Placement: Diversity Consultation

(taken fall and spring terms for a total of eight credits)

PSY 699 Research and Thesis

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#### **Fieldwork Placement**

In the second year, students work individually or form small consulting groups to work with local organizations that desire diversity management interventions. Over the six-month period of this supervised, hands-on experience, students apply assessment strategies to gather data on the organizational culture, analyze the data, and provide feedback, recommend changes, and deliver the indicated intervention to the client.

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#### **Exit Requirements**

In the spring term of the second year, students enroll in PSY 699 Research and Thesis. They complete an in-depth exploration, review, and integration of psychological theory and application on a diversity topic or problem relevant to their interests, needs, or settings. They present findings and analyses in two formats: a thesis suitable for publication or for presentation at a professional conference and, near the end of the term, all students expecting to graduate in May make an oral presentation of their work. Return to top

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business administration

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CERTIFICATE AREAS

ADDENDA

physics





# physics courses

**PHY 510** Holography (2-4-3). Laboratory course in holography. Production of single- and multiple-beam transmission and reflection holograms and three-dimensional cylindrical holograms.

**PHY 520** Computational Physics (4-0-4). Numerical simulations such as Monte Carlo and visualizations of complex physical systems; examples from fractals, chaos, and cellular automata.

PHY 530 Introduction to Medical Physics (4-0-4). Prerequisites: PHY 241 (or PHY 243) and PHY 242 (or PHY 244), or permission of the instructor. An introduction to the medical applications of radiation and imaging physics. Topics include interactions of radiation with biological tissues, production and properties of radionuclides, radiation therapy physics, dosimetry, diagnostic radiology, nuclear medicine, and issues of radiation safety.

**PHY 535 Radiation Therapy Physics (4-0-4).** Prerequisite: PHY 430 (or PHY 530), or permission of the instructor. An examination of therapeutic applications of ionizing radiation. Included are basic radiological physics and dosimetry, modern methods of using radiation in teletherapy and brachytherapy, and radiation protection.

**PHY 550 Optics (4-0-4).** Geometrical optics with applications to microscopes, cameras, and vision; thick lenses and aberrations; polarization; interference and interferometers; Fresnel and Fraunhofer diffraction; and Rayleigh scattering.

**PHY 555** Advanced Optics Lab (2-6-4). Hands-on knowledge in optical principles and techniques; dispersion in glass, diffraction, and interferometry. Includes a student-selected project.

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PHY 560 Laser Physics and Photonics (4-0-4). Basics of laser operation and photonics. Topics include spontaneous and stimulated emission laser types, optical detectors, integrated optics, rate equation models for lasers, quantum

noise limits, and elementary nonlinear optics.

**PHY 565** Image Processing (4-0-4). Fraunhofer and Fresnel diffraction, linear systems theory, optical image processing with coherent light, optical transfer function for incoherent light, FFT algorithm, and digital image processing in pixel space and in Fourier space.

**PHY 570** Environmental Physics (4-0-4). Study of physical phenomena underlying environmental issues. Topics include energy and entropy laws; electromagnetic radiation; forms of energy, such as fuels, nuclear, and solar; percolation model; and chaos theory as it pertains to population dynamics and climate.

**PHY 580 Optical Materials (4-0-4).** Fundamentals of electron motion in solids; physics of LEDs, diode lasers, and solar cells; optoelectronic properties of transparent and porous semiconductors; materials for optical modulation, data storage, and computing; liquid crystals; and flat panel displays.

PHY 593 Special Topics in Physics (one to six credits). Topics from condensed matter physics, optics, computational physics, and pedagogy.

**PHY 598 Project (2-6-4).** Students work on an approved research problem, experimental or theoretical, under the guidance of the faculty advisor.

**PHY 680** Physics of Materials (4-0-4). Binding energy of materials, heat capacity, thermal and electrical conductivity, free-electron and band theories of solids, and quantum statistics.

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# Cleveland State University

# **College of Education and Human Services**

The teacher as a responsive, reflective professional -- A partner in learning

# **ETE501 Technology Strand**

Due to changes and updates to the ETE501 curriculum, the Department of Curriculum and Foundations will no longer be continuing the test-out procedure as an option for students.

The elimination of mass test-out sessions puts ETE501 credit by examination back in line with College of Graduate Studies' policy which specifies that:

"A student may request to receive credit by examination for a course with departmental approval and with the permission of the Dean of the Graduate College. The grading of such examinations is conducted by a faculty member or committee from the department in which the student takes the examination. Performance must be at the B level or better to receive credit by examination. The student must pay a \$20 fee for each examination. Graduate Credit by Examination forms are available in the Graduate College Office and the Graduate Admissions Office."

The Chair will make recommendations to the Graduate Dean in consultation with the educational technology faculty in cases where a student is already employed as a technology specialist or its equivalent and demonstrates extensive experience with computer uses in research and instruction in education and human services fields.

For questions, please contact Dr. Lih-Ching Chen Wang.

Copyright 2001-108 Dr. Lih-Ching Chen Wang



元元. Office: RT1438, phone: (216) 687-4595

E-mail address: ete501@wang.ed.csuohio.edu

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For information on fields of study, colleges and academic departments and schools, visit www.csuohio.edu/academic.

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**Cleveland State University** 

2121 Euclid Avenue Cleveland, OH 44115-2214 216.687.2000

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A comprehensive directory of faculty and staff and a listing of departments can be accessed in the <u>Campus Directory</u>.

#### **Emergencies**

#### **University Police**

911 or 8-911 (CAMPUS EMERGENCY CALLS ONLY: Fire, Police, Medical, Hazmat Spills) 216.687.2020 (safety on campus, safety escorts, lost and found)

#### **Emergency Procedures** (Office of Risk Management)

216.875.9801

#### **Snow & Emergency Closing Information**

216.687.2000

#### **Emergency Maintenance Contacts**

216.687.2500 (Facilities Operations Dispatch; Monday-Friday, 7:45 a.m. - 4:45 p.m.) 216.687.2020 (University Police; nights and weekends)

#### **Emergency Auto Service**

216.687.2023 (Monday-Friday, 8:00 a.m. - 5:00 p.m.) 216.687.2020 (evenings and weekends)

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#### Admissions

#### **Undergraduate Students**

216.687.5411

888.CSUOHIO (888.278.6446)

#### **Graduate Students**

216.687.5599

#### **Law Students**

216.687.2304

#### **International Students**

216.687.3910

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216.687.3786

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216.687.4625

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216.687.2555

#### **College of Graduate Studies**

216.687.9370

#### **Cleveland-Marshall College of Law**

216.687.2344

#### **College of Liberal Arts and Social Sciences**

216.687.3660

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216.687.5580

#### **Maxine Goodman Levin College of Urban Affairs**

216.687.2136

#### **Division of Continuing Education**

216.687.4850

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#### **Academic Advising**

216.687.2402

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216.687.2223

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216.687.2078

#### **Athletic Department**

216.687.4800

#### **Bookstore**

216.687.2128

#### **Call Center**

216.687.5050

#### **Campus Tours**

216.687.2295

#### **Campus Watch**

216.687.2020

#### Campus411

216.687.5411

#### **Cashier**

216.687.3615

#### **Conference Services**

216.687.2268

#### **Counseling and Testing Center**

216.687.2277

#### **Development**

216.687.3557

#### **Facilities Operations**

216.687.2500

#### **Financial Aid**

216.687.3764

#### **Health & Wellness Services**

216.687.3649

#### **Human Resources Development & Labor Relations**

216.687.3636

#### **Judicial Affairs**

216.687.2048

#### Libraries

216.687.2478 (<u>University Library</u>)

216.687.2250 (Law Library, Cleveland-Marshall College of Law)

#### **Mail Department**

216.687.3586

#### **Marketing and Public Affairs**

216.687.2290

#### **Ombudsperson**

216.687.4665

#### **Parking Services**

216.687.2023

#### **Residence Life**

216.523.7332

#### **Student Life**

216.687.2048

#### Web Site

216.523.7226

#### **Wolstein Center**

216.687.9292

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# Search



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Search WWW

Use the **Campus Directory** to contact Cleveland State faculty and staff.

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Contact Academic Web Manager **Home** » Academics

#### **Academic Excellence**

Cleveland State is a student-focused center of scholarly excellence that provides an accessible and exceptional education. A leader in innovative collaboration with business, industry, government, educational institutions and the community, Cleveland State is a critical force in the region's economic development.

#### **Fundamentals**

#### **Academic Advising**

The Advising Center helps students develop a plan to achieve academic success. Advisors provide ongoing assistance with requirements and course selection, major and career exploration, petition assistance, graduation applications, and a host of other services and programs.

#### **General Education Requirements**

Students are responsible for ensuring the appropriate selection of courses to satisfy general education requirements and are encouraged to consult with their academic adviser regarding the applicability of selected courses.

#### Catalogs: <u>Undergraduate</u> | <u>Graduate</u> | <u>Law</u>

Catalogs serve as the student's guide to information on academic policies, program requirements, and course descriptions.

#### **Courses: Descriptions | Schedules**

Course descriptions are found within the catalogs and describe all courses. Course schedules show which courses are being offered for the current and near-future terms.

#### **Transfer Module**

The Ohio Board of Regents developed a statewide policy to facilitate students' ability to transfer credits from one Ohio public college or university to another in order to avoid duplication of course requirements.

Office of the Provost

#### Resources

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**Pre-College Students** 

**Check Status of** 

**Your Application** 

Need Help? 216.687.5411 **Home** » Admissions

#### Welcome!

We are pleased Cleveland State is among your academic choices. We invite you to visit our developing metropolitan campus to experience all that Cleveland State has to offer. To guide you in your discovery, choose the category below which best describes your academic status.

#### **Incoming Freshmen**

Current high school students or high school graduates who have not attended college.

#### **Transfer Students**

Students who are transferring from another university or college to Cleveland State.

#### **Graduate Students**

Students considering a graduate program at Cleveland State and who have completed or are nearing completion of an undergraduate degree.

#### **Guest Students**

Students who are not currently seeking a degree, are from another university or college, want to take courses for professional development or personal enjoyment, have cross-registered at a participating university or college, or are Ohio residents age 60 or older.

#### **International Students**

International students interested in studying in the United States at Cleveland State.

#### **Returning Students**

Students who previously attended Cleveland State or students who have a bachelor's degree and want to take undergraduate courses.

#### **Law Students**

Students interested in pursuing a law degree at Cleveland State's Cleveland-Marshall College of Law.

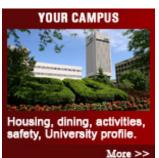
#### **Pre-College Programs**

Students who interested in taking college courses while they are still in high school. This includes Post-Secondary Enrollment Options Program, Viking Bridge to College and other summer programs.

CAMPUSNET | ACADEMIC CALENDAR | CLASS SCHEDULE | CAMPUS E-MAIL | eLEARNING



More >>





More >>



http://www.csuohio.edu/admissions/ (1 of 2)5/6/2008 3:04:07 PM

**LIBRARIES** 

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#### Mailing Address

Cleveland State University Office of Sponsored Programs and Research 2121 Euclid Avenue Parker Hannifin Hall, 3rd Floor Cleveland, OH 44115-2214

#### Campus Location

Parker Hannifin Hall, 3rd Floor 2258 Euclid Avenue

Phone: 216.687.3630 Fax: 216.687.9382

Web Content Contact Charles Newton c.w.newton@csuohio.edu Home » Research

#### **News and Announcements**

- New 04/07/08 Inquiry a Research Annual Report / 2007
- Lastest Research News
- FY 2009 Fringe Rates
- CSU Wins \$23.8 Million for Wright Center of Innovation for Ohio
- IMPORTANT NOTICE ON TIMELY FILING OF PROJECT REPORTS
- NIH Grants.gov Transition Strategy and Timeline
- Ohio Code of Ethics Law :General Prohibitions

#### INTRODUCTION

Research, both basic and applied, is central to Cleveland State University's mission for it is widely accepted as an integral part of graduate and professional education. The purpose of research is to advance existing knowledge in a discipline, subject area or field; to fill significant gaps in such knowledge; to devise new modes or means of expression; and to develop new perspectives in sciences, arts and humanities.

The Office of Sponsored Program & Research (OSPR), under the supervision of the College of Graduate Studies, assists the CSU academic and administrative communities to meet the University's research and creative activities goals. While working to foster relationships with Federal, State, Foundation, and Corporate sponsors, OSPR advances those CSU research, training and service activities promulgated by faculty and staff. OSPR invites all CSU faculty and staff to consider our offices as the "One-Stop Shop" for all grant seeking and post-award needs.

Faculty at Cleveland State continue to build a solid reputation for quality research by attracting highly qualified graduate students and by garnering significant new external research funding. The University maintains that research and teaching are not only symbiotic but also the focus of quality graduate education.

Cleveland State University strives to "promote the scholarly activities of the University community by facilitating opportunities for innovative research and creative activities".

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**West Center** 

**Lakeland Community** 

**College Partnership** 

**Lorain County Community** 

**College Partnership** 

**Other Locations** 

#### **CONVENIENT LOCATIONS**

With campuses and partnership locations throughout Northeast Ohio, Cleveland State makes it easy to earn a degree, complete a certificate or take the courses you need to get ahead.

#### **Downtown**

Eighty-five acres of classrooms, labs, libraries, recreation facilities and student housing make up our thriving main campus, located just east of downtown Cleveland.

#### **East Center**

Close to home or work, East Center opened in 2004 and serves the East Side suburbs. It is located in Solon in the Centre Point Building at the intersections of Route 422 and 91.

#### **West Center**

Expand your horizons at West Center, opened in 2003 and serving suburbs on the West Side. You'll find us in Westlake, just off I-90 at the Columbia Road exit.

#### **Lakeland Community College Partnership**

Stay on the Lakeland campus and become a Cleveland State student by transferring seamlessly into any one of five bachelor degree programs.

#### **Lorain County Community College Partnership**

We offer a variety of bachelor and graduate degree programs on the LCCC campus, conveniently located in the University Center Building

#### **Other Locations**

Cleveland State offers a wide range of courses at libraries, high schools, career centers, hospitals and other colleges.

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**Mailing Address** 

Cleveland State University Center for International Services and Programs 2121 Euclid Avenue Cleveland, OH 44115-2214

**Campus Location** 

Keith Building, Room 1150 1621 Euclid Avenue

Phone: 216.687.3910 Fax: 216.687.3965 cispcsu@csuohio.edu

**Web Content Contact** 

Natkamol Tayarachakul n.tayarachakul@csuohio.edu

**Web Technical Contact** d.arthur91@csuohio.edu **Welcome to International Center** 

Visit From Bahcesehir University, Istanbul Turkey

**April 7,2008** 

**Events** 

CISP News ST

 Recently Visiting International Universities NEW!

 Application for Conditional Admission NEW!

 International Woman Day Event Pictures NEW!

 Faculty Fulbright Information Session

 IFSA Foundation Study Aborad Scholarship for

Non-Traditional Undergraduates

SAT & ACT Waived

 Spring 2008 Welcome Letter

 New International Alumni Website

Click Here

 Online Application Apply Today!

We have moved!

Fall 2008

**Application Deadline May** 

15 2008

STUDENT HEALTH

**INSURANCE** 



Click Here

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and Policies

**Cole Center** 

**Professional Approvals** 

### **Mailing Address**

Cleveland State University Division of Continuing Education 2121 Euclid Avenue CE 103 Cleveland, OH 44115-2214

# **Campus Location**

Joseph E. Cole Center 3100 Chester Avenue Cleveland, OH

Phone: 216.687.2144 Fax: 216.687.9399 conted@csuohio.edu

# **Web Content Contact**

Dr. Barbara Hanniford b.hanniford@csuohio.edu 216.687.2149

**Web Technical Contact** Denyse Castle g.d.castle@csuohio.edu

216.687.4685

# Welcome!

Discover how Cleveland State's Continuing Education programs can help you gain new skills, advance your career, and achieve your creative potential. Join the thousands of adults each year who take advantage of our professional development and lifelong learning programs.

Use our site as your professional development resource! You'll find in-depth certificate programs and courses plus dozens of shorter seminars focused on today's most important career skills. Our experienced instructors deliver practical information you can put to work the very next day. Find out why so many organizations and individuals rely on us to build their knowledge resources.

Contact us today to register for an upcoming program or discuss custom training at your location-we'll tailor a program to your specific needs. Your success is our business!





















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**Division of University Advancement** 

# Giving

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**Print Donation Form** 

**About Us** 

Development Office Cleveland State University 2121 Euclid Avenue MM 209 Cleveland, OH 44115-2214

Campus Location Mather Mansion, Rm. 209 2605 Euclid Avenue

Phone: 216.875.9837 giving@csuohio.edu

### **GIVE TO CLEVELAND STATE**

Every year thousands of students benefit from the kindness of our donors who provide access to higher education and unlimited opportunities for our students through their generosity.

Many thanks to the alumni, faculty, staff, friends, corporations and foundations that support Cleveland State University each year. Your gifts provide additional resources necessary for Cleveland State University to continue to provide a high quality educational experience for its diverse student body.

Gifts to Cleveland State University provide the following:

- Scholarships
- Academic programs
- Support for the colleges
- Faculty and staff development
- Technological upgrades
- Facilities and equipment

Contributions to Cleveland State University take many forms and may be directed to the college, department or program of your choice! We invite you to explore our site to learn about the different ways you can support Cleveland State. The Cleveland State University Foundation exists solely to raise, receive and manage private gifts for the advancement and benefit of Cleveland State University.

If you have any questions, you can contact the Development Office at 216.875.9837 or giving@csuohio.edu.

# Planned Giving Planning for Tomorrow

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# Alumni & Friends

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**Update Your Profile** 

Mailing Address

Cleveland State University Alumni Affairs 2121 Euclid Avenue MM 212 Cleveland, OH 44115-2214

Campus Location Mather Mansion, Rm. 212

2605 Euclid Avenue

Phone: 216.687.2078 alumassoc@csuohio.edu

# **ANNOUNCEMENTS**

# The Curtain is Rising

They're two of the hottest tickets in town. But you can get great seats for Tony Award-winning musicals *The 25th Annual Putnam County Spelling Bee* and *Jersey Boys* by being part of CSU Alumni Nights at Playhouse Square.

Join fellow alums on **Wednesday, May 7** at 7:30 pm at the Palace Theatre for *Spelling Bee*, hailed by the *New York Times* as "irresistible, riotously funny and remarkably ingenious." Orchestra (main floor) tickets are just \$39.

On **Sunday, July 13** at 6 pm at the State Theatre, *Jersey Boys* will have you on your feet and singing along with all the hits made popular by Rock and Roll Hall of Famers Frankie Valli and the Four Seasons. Tickets range from \$56 to \$91. This show is sure to be a sellout so don't miss out!

Click here to order Alumni Night tickets.

### Distinguished Alumni Award Recipients for 2008

Eight outstanding graduates of Cleveland State University will be honored for their service, leadership and career achievements at the 18th annual Distinguished Alumni Awards Dinner. This year's honorees are: Anand "Bill" Julka (George B. Davis Award), Ellis Z. Yan (Nance College of Business Administration), Dr. Christine S. Moravec (College of Science), Dr. Robert A. Cutietta (College of Liberal Arts and Social Sciences), Dr. Roshanak Hakimzadeh (Fenn College of Engineering), Gregory L. Brown (Maxine Goodman Levin College of Urban Affairs), Georgia A. Froelich (Cleveland-Marshall College of Law), and James A. Harmon (College of Education and Human Services).

The awards ceremony will be held Friday, June 13 at 6 p.m. at Windows on the River in The Powerhouse at Nautica, 2000 Sycamore, on the West Bank of The Flats. Tickets are \$65 each; tables of eight are \$500 each. Proceeds benefit the Alumni Association's Student Leadership Scholarship fund and alumni programs. Click here for details on this year's recipients.

Congratulations to the recipients!

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Alumni Affairs

University Advancement

**General Contacts** 



<u>Click here</u> for tickets and sponsorships or call 216.687.2078.

Sponsor levels:

**EMERALD \$10,000** 

GOLD \$5,000

**BLACK PEARL \$2,500** 

**JADE \$1,000** 

Individual tickets are \$65.

# Vintage Ohio Discount August 1 & 2

A special offer for Cleveland State University Alumni!

Vintage Ohio Wine Festival Adult Taster tickets will be discounted \$8.00 per ticket for Cleveland State University Alumni. Originally \$25.00 at the gate and \$22.00 ordered in advance. Cleveland State alumni get the low price of \$17.

Tickets include admission to the festival, a souvenir wine glass and complimentary sampling at over 25 Ohio wineries. Visit www. VisitVintageOhio.com for a complete list of activities.

Order on the web at www.VisitVintageOhio.com or by phone at 800-227-6972. Use discount code 2008CSU. Must be 21 to order. Tickets are nonrefundable.

Coupon expires July 28, 2008

# **CSU Screensaver and Wallpaper**

Light up your screen — show your CSU pride with an official CSU screensaver or wallpaper! <u>Download</u> for free.

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# Faculty & Staff

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Staff Resources

**Employee Resources** 

**Administrative Resources** 

Need Help? d.arthur91@csuohio.edu

# **Our Faculty**

For our professors, teaching isn't a profession — it's a passion. Our professors take students beyond the classroom, sharing their fields of expertise through research and mentoring. Learn more about our outstanding faculty by viewing the <u>Faculty Profiles</u>.

### **Contact Information**

The <u>Campus Directory</u> lists contact information for our faculty and staff.

### **Internal Resources**

Specific resources for <u>faculty</u> and <u>staff</u> are available, including <u>employee resources</u> and <u>administrative</u> resources.

Additional resources for faculty and staff are available through the <u>Department of Human Resources</u> <u>Development and Labor Relations</u>. A list of administrative departments and services can be found in the <u>A-Z Index</u>. For information on fields of study, colleges and academic departments, visit <u>www.csuohio.edu/academic</u>.

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# A PRESIDENTIAL WELCOME

Cleveland State University welcomes you to the heart of the City of Cleveland. Our students are fond of claiming that the entire city is their campus as both classroom and laboratory for study, practical experience, and recreation. We mean it when we pledge to you an education in the real world for the real world among a diverse and engaged student body.

Our goal at Cleveland State University is to create a student-focused center of scholarly excellence. We expect to be known as a place of opportunity for those who wish to know the truth of things, who are willing to strive for it, and who seek a better life for themselves and their fellow citizens. Within this student-centered supportive environment, we are committed to developing the minds and talents of all who enroll in our courses.

Part of our commitment demands that we help students to meet the challenges of living and learning in a knowledge-based, ever-changing world. Added to this challenge are the obligations to learn about and know one another. The tragic events that took place in the first year of the new millennium have forced us out of our isolation as a people and made us painfully aware that we must educate one another to be responsible members of a democratic society and citizens of the world. Our curriculum is designed for these goals. Among our more than 1,000 courses supporting 200 major fields of study, you will find opportunities to learn about everything from medieval society to international trade, expert systems and the environment. You will also find opportunities for study abroad.

The University insists on creating an atmosphere that promotes intellectual growth and the creation of new knowledge. Working beside you in these discoveries will be a first-class faculty. Ninety-eight percent of our full-time faculty hold the highest degrees in their fields. Four out of five hold the Ph.D., a figure unmatched by any other Ohio university. You will meet these professors, not graduate students, in our classrooms and laboratories. And all of our accepted students are admitted onto the main campus, not to a branch or a two-year program within the institution. You will find that, even as undergraduates, you will be welcomed into research teams by our faculty.

We believe that a first-class education benefits not only the graduate of Cleveland State but the rest of society as well. Public and private institutions, corporations, and businesses have joined as our partners in a dynamic learning experience. With their help, the University creates an environment where the individual, the curriculum, and the community interact to achieve the highest levels of learning. The knowledge you gain during your course of studies on our campus will be invaluably augmented by your experience in the community, whether as a participant in our outstanding cooperative education

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opportunities, through service learning, or as an intern or member of a groundbreaking research team. We hope that you will, in turn, employ your knowledge to solve problems, stimulate economic activity, and increase opportunity in these same communities.

This, then, is the educational philosophy of Cleveland State University. If you have been intrigued by what you have read so far, I invite you to read through the pages of our catalogs, investigate our academic programs, and visit our campus to meet our faculty.

I look forward to meeting you.

Michael Schwartz President

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**Special Events** 

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Need Help? 216.687.5411 Home » Admissions » Visit

# Visit

The best way to discover all that Cleveland State has to offer is to visit campus. You will learn about our academic programs, have the opportunity to meet our exceptional faculty, get all your questions answered, and tour the campus with a current student. During the tour, you will visit many campus buildings, including our residence halls and new recreation center. You are welcome to visit our campus anytime of the year and we encourage you to do so.

# Schedule a Visit

We offer you a variety of opportunities to visit our campus:

- Special events
- · Weekday visits
- Saturday visits
- Group tours

### **Holiday Schedule**

The Office of Undergraduate Admissions is closed on the following dates:

- Labor Day (September 1-3, 2007)
- Columbus Day (October 8, 2007)
- Thanksgiving Day (November 22-25, 2007)
- Christmas Day (December 25, 2007)
- New Year's Day (January 1, 2008)
- Martin Luther King Jr.Day (January 21, 2008)
- President's Day (February 18, 2008)
- Memorial Day (May 26, 2008)
- Independence Day (July 4, 2008)

No visits or tours will be scheduled on these dates.

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Contact Academic Web Manager Home » Academics » Summer Study

# **Summer Study**

Summer study at Cleveland State benefits current students and students home from other colleges, as well as high school students. Summer sessions are ideal for current students if you want to get ahead of the game or catch up if you are behind. Students who attend other colleges and are home for the summer can take classes at Cleveland State and earn credits toward their degree. Summer study offers high school students the opportunity to jumpstart their college education.

# Features of Summer Study at Cleveland State

- Affordable much more affordable than private school tuition
   Undergraduate courses \$330 per credit
   Graduate courses \$439.25 per credit
   (Tuition rates are for Ohio residents. Rates are subject to change without notice.)
- Outstanding faculty dedicated to helping you learn
- Graduate faster take a course this summer and transfer the credit back to your current institution
- Get a head start on or complete those required general education courses
- Convenient and flexible class schedules day, evening and weekend
- Easy admission and registration for freshmen, transfers, graduates, working adults and students home for the summer
- Unique course offerings
- Professional certificate programs
- Courses for fun and personal enrichment!

### **Summer Schedule**

- First six-week session begins May 17
- Second six-week session begins June 30
- Eight-week session begins May 17
- 10-week session begins May 17
- 12-week session begins May 17

# **Special Summer Programs**

- Complete those Gen Eds Expand your mind while completing your required General Education courses. The College of Liberal Arts and Social Sciences offers a full range of Gen Eds that explore topics in human diversity, non-Western and Western culture, social science and more. Flexible schedules in 6-, 8-, 10- and 12-week sessions. View courses offered.
- Complete a Year-Long Science Course in 12 Weeks! The College of Science offers courses in two intensive, six-week sessions that allow current and visiting students to complete a two-semester sequence in only 12 weeks. Choose from Biology, Chemistry, Calculus, Physics, Anatomy or American Sign Language. View courses offered.

• **Get Ahead, Go Online** — Convenient and flexible! Choose from more than 120 online courses in Business, pre-MBA, Education, English, Communication, History, Philosophy, Sociology and Urban Studies. Come back on January 4 for a complete list of summer online courses.

# **Register for Courses**

- Current and former Cleveland State students can register for courses through <u>CampusNet</u> or in person in the Campus411 Office in University Center, room 162. If you have not attended Cleveland State since April 2006, please contact Campus411 at 216.687.5411.
- **Students new to Cleveland State** will need to complete an application prior to registering for courses. Requirements and applications are available at <a href="www.csuohio.edu/admissions/guest">www.csuohio.edu/admissions/guest</a>.

# **Classes Offered**

Cleveland State will offer more than 900 classes this summer.

- Undergraduate Courses
- Graduate Courses

# Need Help?

Contact the Campus411 Office at 216.687.5411 and we will assist you with your questions regarding Summer Study at Cleveland State.

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**Ceremony Day** 

**Dates** 

# Cleveland State University

# Commencement

Ceremony Spring 2008 Ceremonies

Important Facts Saturday, May 10, 2008

The Bert L. and Iris S. Wolstein Center

2000 Prospect Avenue

Ceremony I - The Colleges of Business Administration, Education and Human Services, and Urban Affairs

9:30 a.m. - Procession starts

FAQs 10:00 a.m. - Ceremony begins

Future Commencement Ceremony II - The Colleges of Liberal Arts and Social Sciences, Science, and Engineering

2:00 p.m. - Procession starts 2:30 p.m. - Ceremony begins

Mailing Address Cleveland State University 2121 Euclid Avenue Cleveland, OH 44115-2214

Phone: 216.687.5045

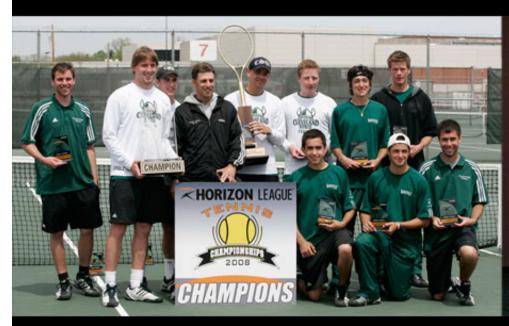
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# CONGRATULATIONS CLEVELAND STATE COUR AND TENNIS





# 2008 HORIZON LEAGUE CHAMPIONS

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Campus Location Mather Mansion, Rm. 304 2605 Euclid Avenue

Phone: 216.687.2290 pr@csuohio.edu

### **NEWS & EVENTS**



- CSU First in State for Overall Bar Passage Rate
- Diversity Management Conference, May 9
- Design a Life Workshop/Conference, May 16-17
- Students to Share in \$22.7 Million in Scholarships
- Minority MBA Students Excel in Competition

**Events Calendar** (sort by date or topic)

### **NEWS RELEASES**

(Recently Issued Releases)

Ninety-Five Percent of Cleveland-Marshall College of Law Students Pass
February Ohio Bar Exam on First Try; CSU Law School is First in the State
for Overall Passage Rate

For the February, 2008 exam, the combined passage rate for all CSU law graduates, including first-time takers and any who were taking the bar exam for at least the second time, was 72% -- the highest combined passage rate for any Ohio law school.

-May 5, 2008

# CSU Students to Share in \$22.7 Million in First Round of Choose Ohio First Scholarship Program Funds

Ohio Governor Ted Strickland has announced the State of Ohio's first collaborations to receive funding under the state's *Choose Ohio First Scholarship Program*, a \$50 million program designed to help make Ohio a global leader in the new economy.

-March 21, 2008

# Cleveland State's Department of Music Presents Spring Concerts

Cleveland State University's Department of Music will present several spring concerts in March, April, and May in the Cleveland State Music and Communication Building, 2001 Euclid Avenue.

-March 14, 2008

# Cleveland State Minority MBA Students Place Fourth in National KeyBank Business Competition

A team of four Cleveland State University MBA students from the Nance College of Business Administration placed fourth in a national competition sponsored by KeyBank to expand their consumer banking unit.

-March 11, 2008

More News Releases >>>

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Phone: 216.687.2290 pr@csuohio.edu

News Release #14450 March 11, 2008 Contact: Brian Johnston 216.687.2290 | pr@csuohio.edu

# Cleveland State Minority MBA Students Place Fourth in National KeyBank Business Competition

A team of four Cleveland State University MBA students from the Nance College of Business Administration placed fourth in a national competition sponsored by KeyBank to expand their consumer banking unit. Cleveland State also received the Best Presenter Award. The CSU team placed behind Indiana University, Carnegie Mellon University and The Ohio State University.

The Cleveland State team placed ahead of at least 12 teams from respected, highly ranked MBA programs across the nation, including those at Howard University, Purdue University, Syracuse University, University of Cincinnati, Miami University, Case Western Reserve University, Rice University, University of Chicago and University of Texas at Dallas.

The 2008 KeyBank Minority MBA Student Case Competition was held in cooperation with The Ohio State University's Fisher College of Business at KeyBank's headquarters, Key Tower in Cleveland. This year, KeyBank wanted help with expanding their consumer banking unit, called Key Community Banking. The bank asked the teams for near- and long-term strategies, identifying ways in which the line of business can grow revenue in high growth markets where Key has a low density branch presence as well as support efforts to grow in low growth, low density markets.

The Cleveland State team consisted of Martha Muhammad, Celestine Ilori, Elizabeth Tsai and Marvin Warner. They proposed a three-pronged strategy of mergers and acquisitions in the Southwest, partnering with retail partners for on-site banking centers in stores such as Target and Whole Foods, and expanding on-line banking.

"We are proud of the performance of our MBA students in the KeyBank Case Competition. Their ability to analyze real-world business problems and develop effective plans to solve those problems is evident from the outcome of the competition," said Robert Scherer, Ph.D., Dean of the Nance College of Business.

The team's recommendations were based on data obtained from KeyBank annual reports, the FDIC, Internal Revenue Service, U.S. Census Bureau and CSU Library databases. Assistant professor of marketing Elad Granot was the team advisor; all team members attended his marketing classes, in which he stresses the importance of working on real-world cases as opposed to textbook theories. This type of engaged learning experience throughout the MBA program played an important role in the team's success in the competition.

###

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College of Science

# Psychology

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Search College

**Diversity Management Program and** Division of Institutional Diversity

**Diversity Management Conference:** "Translating Theory and Research Findings into Best Practices"

> May 9, 2008 8:00 am - 5:00 pm

Networking Reception 5:00 - 6:30 pm Maxine Goodman Levin College of Urban Affairs Atrium

# Save the Date!

Explore how to make your diversity investments pay off. Learn how the latest research and theory can be used to provide real world solutions and creative approaches to diversity dilemmas.

PRE CONFERENCE WORKSHOP (THURSDAY, MAY 8, 2008) Click here (Making your Workplace Inclusive with Barry Cross of Elsie Y Cross and Associates)

NOTE: You will be connected to the continuing Education registration page. You will need to enter the corresponding course and section numbers to register.

Location: East Center, Solon (free parking)

Course #: HCHS 538005 **Section #**: 6850 Time: 8:30am - 5pm

Start Date: May 8, 2008 (Register early 30 person limit) Price: \$155.00 (includes CEUs, Breakfast & Lunch)

Early bird rate is \$130.00 if registration and payment are received by April 15<sup>th</sup>.

For Conference Agenda, Schedule & Presentation Descriptions - Click here

CONFERENCE (FRIDAY, MAY 9, 2008) Click here

**NOTE:** You will be connected to the continuing Education registration page. You will need to enter the corresponding course and section numbers to register.

Location: Maxine Goodman Levin College of Urban Affairs Atrium, 1717 Euclid (at corner of E

17th Street and Euclid Ave) Course #: HCHS 540505 Section #: 2800 Time: 8:00am - 5pm Start Date: May 9, 2008

Price: \$155.00 (includes CEUs, Breakfast, Lunch & Networking Reception) Early bird rate is \$130.00 if registration and payment are received by April 15<sup>th</sup>.

**Lodging**: We recommend the Wyndham Hotel to our out-of-town guests.

**Mailing Address** Cleveland State University

2121 Euclid Av. Cleveland, OH 44115-2214

# **Campus Location**

2300 Chester Room 166 Cleveland, OH 44115-2214

Phone: 216-687-2587 Fax: 216.687.9294 psychology@csuohio.edu

### Web Contact

psychology@csuohio.edu 216-687-2544

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# Cleveland State University College of Science





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**Search College** 

Design a Life: A Community of Ideas

Bringing together community residents, artists, and health care professionals to explore the contributions of creative activities to health and quality of life.

Date: May 16, 2008 Time: 8:30am - 7:30pm

Location: Cleveland State University

Date: May 17, 2008 Time: 8:30am - 1:00pm

Location: Cleveland State University

New Fee Structure. Register Now!

**Keynote Speakers** 

Dr. Mihaly Csikszentmihalyi - Keynote Speaker on Friday, May 16th



**Mailing Address** 

College of Science Advising Center 2121 Euclid Avenue MC 218B Cleveland, OH 44115-2214

Campus Location 1899 East 22nd St. Main Classroom Professor & Director of the Quality of Life Research Center at the Drucker School

Professor Mihaly Csikszentmihalyi will draw on decades of research on creativity and flow to describe two essential ingredients for a creative life: the ability to control one's attention, and the cultivation of a complex personality. The talk will also differentiate between two often confounded definitions of creativity: small "c", or personal creativity; and big "C" or cultural creativity. The objective of his talk will be to provide the basic principles necessary to understand how a creative attitude to life can be encouraged and supported, at the individual as well as at the institutional levels.

Room 218B Cleveland, OH 44115-2214

### Office

Phone: 216-687-9321 Fax: 216.687.6945 cosadvising@csuohio.edu

Web Contact Ruchi Khurana coswebsite@csuohio.edu 216-875-9824

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### Dr. Elizabeth Yerxa - Keynote Speaker on Saturday, May 17th

Professor Emeritus, University of Southern California. Well-known occupational therapy theoretician and creator of the discipline of occupational science.

"Nurturing the Human Spirit for Occupation: Promoting Individual Flourishing" - Dr. Yerxa will explore the human spirit for occupation as a resource for human flourishing and investigate how the human spirit for occupation might be nourished. She will also discuss the ethical implications of providing opportunities for people to exercise their natural powers.



### Additional Sponsors:

The Cleveland Clinic

Euclid Hospital

The Cleveland Institute of Art

Judson at University Circle

Lutheran Hospital

Cuyahoga Community College/Art Therapy

Ursuline College Graduate Art Therapy and Counseling Department

Art Therapy Studio

### Keynote Speakers:

Mihaly Csikszentmihalyi, Ph.D.

The Drucker School of Management Claremont Graduate University

Betty Yerxa, Ph.D., Professor Emerita,

Program in Occupational Therapy, University of Southern California

Workshops designed to provide a hands-on experience of creativity;

Panels of care providers and creative artists to consider how to employ creative activities in providing care to promote wellness and remediate dysfunction and illness

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Campus Location Mather Mansion, Rm. 304 2605 Euclid Avenue

Phone: 216.687.2290 pr@csuohio.edu

News Release #14451 March 21, 2008 Contact: Brian Johnston 216.687.2290 | pr@csuohio.edu

# CSU Students to Share in \$22.7 Million in First Round of Choose Ohio First Scholarship Program Funds

As part of the Ohio Innovation Partnership, scholarships are designed to significantly strengthen Ohio's competitiveness in science, technology, engineering, mathematics and medicine (STEM) and STEM education.

Ohio Governor Ted Strickland has announced the State of Ohio's first collaborations to receive funding under the state's *Choose Ohio First Scholarship Program*, a \$50 million program designed to help make Ohio a global leader in the new economy. More than \$22.7 million for student scholarships in the fields of science, technology, engineering, mathematics, medical fields (STEM), and STEM education will be directed to 21 Ohio public and private colleges and universities across the state to be used specifically to attract, retain, and graduate more than 2,000 new STEM students over the next five years.

Cleveland State University and its partners have been awarded funding totaling more than \$5 million in two categories: Student Success in Mathematics and Building the Nursing Workforce in Northeastern Ohio.

"In order for Ohio to be globally competitive for the jobs of the 21st century, we must increase the number of Ohioans with college degrees in critical areas of math, science, engineering, and technology. *Choose Ohio First* helps us do just that," said Governor Strickland.

"The Choose Ohio First awards for student scholarships are very special to us as they validate the hard work put in by our faculty and students, and the collaborations we share with peer institutions, high schools, and our partners in health care. They further recognize the great strides we, as a university, have taken to position ourselves among the best institutions anywhere in these critically-important disciplines of STEM education," said **Dr. Mary Jane Saunders, Provost and Senior Vice President for Academic Affairs at Cleveland State University.** "It is rewarding to have our work recognized in a manner that will have short-term benefit to our students and longer-term benefits to the economy of the region and the State. Our focus is always on the success of our students, and it is gratifying to know we are playing a leadership role in making them better equipped to help themselves while helping make Ohio a global leader in the new economy."

Choose Ohio First is intended to be Ohio's premier model for recruiting and retaining more Ohio residents as students in STEM and STEM education fields. Universities and their collaborating partners will also contribute almost \$38 million in cash and services to support the implementation and continuation of their programs. A second round competition to award the remaining \$27.3 million available under Choose Ohio First is now underway.

There were 28 proposals submitted for *Choose Ohio First* funding consideration, which were subsequently reviewed by a 7-member panel of nationally visible STEM educational experts appointed by **Board of Regents Chancellor Eric D. Fingerhut.** 

"Round one award recipients submitted proposals that were all creative in establishing forward-looking educational initiatives that will advance STEM education in Ohio, and some may well serve as national models," said Fingerhut. "The leadership of Governor Strickland and the General Assembly has created a

tremendous opportunity for Ohio students, our colleges, universities, and their partners, as well as the overall Ohio economy. We're looking forward to round two."

# CLEVELAND STATE UNIVERSITY Choose Ohio First Scholarship Awards

# Student Success in Mathematics

Cleveland State University (lead institution) will partner with Case Western Reserve University, Kent State University, University of Akron, Youngstown State University, Cuyahoga Community College and a number of high schools and school districts\* to attract and graduate more than 1,000 new STEM students over a 4-year period. The proposal, "Student Success in Mathematics," will improve the coordination between colleges and universities to generate a more mathematically interested and prepared group of prospective college students. The program will strengthen the mathematics preparation of entering college students, which is essential to success in STEM courses of study. This strong focus on mathematics preparedness will translate to a higher recruitment and retention in STEM fields of study. The collaboration will share \$4.5 million in Choose Ohio First Scholarship Program funds awarded by the state.

\* The high schools and public school districts participating in this program include: Cleveland Metropolitan School District, Aurora City Schools, Hudson City Schools, Crestwood Local Schools, New Philadelphia Schools, Waterloo Local Schools, Akron Public Schools, Summit County Educational Service Center, Chaney High School in Youngstown, East High School in Youngstown, Girard High School, Warren G. Harding High School in Warren, and Youngstown Early College.

\*\*\*\*\*

# Building the Nursing Workforce in Northeastern Ohio

Case Western Reserve University (lead institution) will partner with Cleveland State University, The Cleveland Clinic and University Hospitals Case Medical Center, to attract and graduate 56 new students in the area of professional nursing over a 5-year period. The program, "Building the Nursing Workforce in Northeastern Ohio," addresses a clearly identified need for both nurses and nursing faculty in the Northeastern region of Ohio and the country in general. The program identifies qualified nursing students ("Ohio First Nursing Fellows") who will complete the necessary advanced doctoral degrees that are required for faculty nursing positions. The collaboration shares \$676,800 in *Choose Ohio First Scholarship Program* funds awarded by the state.

###

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# Closing Information

# Tuesday, May 06, 2008

Classes are as scheduled at all locations: Downtown, East Center, and West Center.

All offices are open as scheduled.

Please see the <u>University Calendar</u> for regular holidays, on which no classes are scheduled and offices are closed.

Please contact a specific office for its regular business hours.

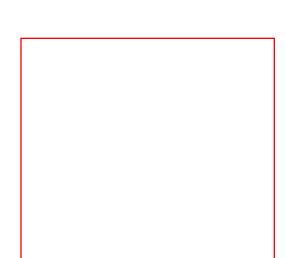
NOTE: Closings are determined by 3:00 a.m. for daytime classes and offices, and 1:00 p.m. for evening classes.

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Wolstein Center



Events for Tuesday May 06 2008



Start	End	Event	Location
08:00 AM	04:00 PM	STUDY LOUNGE	MC 0104
08:00 AM	11:00 PM	CCP RECORDING SESSION: Slee Sinfonietta	MU WAETJ
08:30 AM	03:30 PM	URBAN ISSUES SERIES: EDUCATION	FT 0303
08:30 AM	04:30 PM	FINALS WEEK TESTING	MC 0101, MC 0105
08:30 AM	04:30 PM	EXEC & ADMIN ASST LEADERSHIP CERT PROG	CE 0004, CE 0006
08:30 AM	05:00 PM	LEARNING COMMUNITY FACULTY WORKSHOP	MM 0301
09:00 AM	10:00 AM	EXPLORATORY/TRIO ADVISING STAFF MEETINGS	MC 0102
09:00 AM	02:00 PM	BAKE SALE - NABSW	MC ATRM-B
09:00 AM	04:00 PM	CHM 267 PRE LAB MEETINGS	SR 0398
09:30 AM	10:15 AM	GRADUATE DEAN CANDIDATE DR LEO JEFFRES	FT 0102
09:30 AM	11:30 AM	INTERMEDIATE GRAMMAR	CE 0018
09:30 AM	11:30 AM	ADVANCED GRAMMAR	CE 0017

10:00 AM	11:30 AM	STAFF MEETING - RESIDENCE LIFE	FT 0107
10:00 AM	12:00 PM	REHEARSAL: Bosley Chamber Ensemble	MU 0G15
10:30 AM	12:30 PM	ENROLLMENT CHALLENGE MEETING	MC 0103
10:30 AM	01:30 PM	GRADUATE COUNCIL APPRECIATION LUNCHEON	PH 0103, PH 0104, PH 0105
10:45 AM	12:45 PM	ENGLISH 101 FINAL EXAMINATION	MC 0202
11:00 AM	12:30 PM	COEHS FACULTY MEETING	MM 0101
11:00 AM	12:30 PM	COEHS FACULTY MEETING	BU 0118
12:00 PM	02:00 PM	REHEARSAL: Bosley Jazz Combo	MU 0G08
12:00 PM	06:30 PM	4PM PERFORMANCE: Ohio U Dance Troupe	MU 0105
12:30 PM	01:30 PM	CLEVELAND STATE PAGANS MEETINGS	MC 0102
02:00 PM	06:00 PM	Targeted Job Fair	WO ESTWG, WO WSTWG
04:00 PM	05:00 PM	GRADUATE DEAN CANDIDATE DR LEO JEFFRES	FT 0102
05:00 PM	07:00 PM	BFSO RETIREMENT RECEPTION	FT 0303
05:00 PM	10:00 PM	REHEARSAL: Tim Beyer	** CANCELLED **
05:30 PM	07:00 PM	Executive MBA Information Session	WST0102-A
05:30 PM	10:00 PM	LSAT - TESTMASTERS	MC 0102
06:00 PM	08:00 PM	WINDOWS WORKFLOW FOUNDATION	** CANCELLED **
06:00 PM	09:00 PM	CTKT TRAINING SEMINAR	MC 0103
06:00 PM	10:00 PM	BECKER CPA REVIEW	BU 0302
06:00 PM	10:00 PM	REHEARSAL - SINGERS CLUB	MU 0G17
06:30 PM	07:30 PM	TUTORING PROGRAM	MC 0352, MC 0427, MC 0428, MC 0470
06:30 PM	11:59 PM	REHEARSAL: Luke Swearingen	MU 0105
08:30 PM	10:00 PM	LATE NIGHT BREAKFAST	VH DININ, VH PARL

All times are local for Eastern Time, U.S.A. (Eastern), Canada (Eastern), Bahamas, Haiti, Turks & Caicos.

Questions? Comments? Please contact calteam@csuohio.edu.

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Cleveland State University University Marketing 2121 Euclid Avenue MM 304 Cleveland, OH 44115-2214

Campus Location Mather Mansion, Rm. 304 2605 Euclid Avenue

Phone: 216.687.2290 pr@csuohio.edu

News Release #14497 May 5, 2008 Contact: Brian Johnston 216.687.2290 | pr@csuohio.edu

# Ninety-Five Percent of Cleveland-Marshall College of Law Students Pass February Ohio Bar Exam on First Try; CSU Law School is First in the State for Overall Passage Rate

Cleveland State University law students who took the Ohio Bar Exam for the first time in February 2008 achieved a 95 percent passage rate, improving on the outstanding results of the July 2007 exam when 90 percent of Cleveland State students passed on the first try.

For the February, 2008 exam, the combined passage rate for all CSU law graduates, including first-time takers and any who were taking the bar exam for at least the second time, was 72% -- the highest combined passage rate for any Ohio law school.

On the February 2008, bar exam, 35 of 37 people who graduated from Cleveland State's Cleveland-Marshall College of Law passed the exam on the first try. On the July 2007 bar exam, 110 of 122 graduates passed on the first try, the second highest passage rate among all nine Ohio law schools.

"We're extremely proud of our law graduates and recognize how hard they worked to achieve such spectacular results," said Geoffrey Mearns, dean of the College of Law. "First-time passage on the bar exam is an important mark of excellence. These results show that our plan is working, thanks to the dedication and collective efforts of our students, faculty and staff."

The College of Law adopted a comprehensive bar passage plan aimed at improving graduates' performance on the Ohio bar. The College strengthened the admissions qualifications and reduced the size of its incoming classes; increased the rigor of its academic program; provided more substantial academic support to students; hired a bar coordinator; and taught students to prepare more thoroughly for the exam. As a result, the College's bar passage rate steadily improved over the last three years. In 2006, the passage rate among first-time takers was 84 percent.

The 95 percent passage rate represents Cleveland State's best since July 1996, when the score needed for passage was substantially lower. The score was raised a year later in July 1997.

Cleveland-Marshall College of Law, founded in 1897 as the Cleveland Law School, was the first law school in Ohio to admit women and one of the first to admit minorities. In 1969, the College of Law joined Cleveland's new public university as its sixth college and was renamed the Cleveland-Marshall College of Law of Cleveland State University. Early graduates of the College of Law laid the foundation for the legal profession in Northeast Ohio. Now in its 110th year, Cleveland-Marshall is preparing promising students to be America's leaders in the 21st century in law, business, nonprofit agencies and government.

For more information, please visit www.law.csuohio.edu or call University Marketing at 216.687.2290.

###

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**Frequently Asked Questions** 

Site Map

University Library
Mailing Address
Cleveland State University
Library
2121 Euclid Avenue
Cleveland, OH 44115-2214
Campus Location
Rhodes Tower Building
1860 East 22nd Street
Phone: 216.687.5300

Law Library
Mailing Address
Cleveland State University Law
Library
2121 Euclid Avenue
Cleveland, OH 44115-2214

# **LIBRARIES**

University Library | Law Library

# **University Library**

The <u>University Library</u> supports Cleveland State's instructional and research programs through resources and services made available to students and faculty both in-house and over the Internet in accordance with its <u>mission statement</u>. The Library provides more than 125 public computers connected to the Internet for access to online resources to conduct research. Information regarding library holdings is available online through SCHOLAR.

The Electronic Course Reserve provides the full text of selected reserve materials online both from inside the Library or remotely from any computer with Internet access. Other Library resources include the Find Articles search, the University Archives, the Virtual Reference Desk and the Center for Research Libraries (CRL) for faculty and staff.

The University's in-house collections are complemented by retrieval and delivery services made possible through resource sharing networks, traditional interlibrary loan, document delivery and OhioLINK. A statewide academic network reporting to the Ohio Board of Regents, OhioLINK provides the Cleveland State community with access to 31 million library items statewide.

Special Collections at Cleveland State University Library focus on primary research materials for the study of the economic, cultural, social and political history of Cleveland.

# Law Library (Cleveland-Marshall College of Law)

The <u>Law Library</u> has a strong tradition of service designed to meet the research and instructional needs of students and faculty. Law Library users have access to a wide spectrum of legal research materials.

Campus Location 1801 Euclid Avenue Phone: 216.687.2250

Web Content Contact Charles Newton c.w.newton@csuohio.edu

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# Welcome to CampusNet



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Cleveland State University 2121 Euclid Avenue, Cleveland, Ohio 44115 www.csuohio.edu 216.687.2100

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## Cleveland State University

Office of the University Registrar

## Academic Calendar

New2CSU

**Advising and Planning** 

**Financing Your Education** 

**Register for Classes** 

Daily Life at CSU

**Computer Resources** 

**Planning Your Future** 

Mailing Address

Cleveland State University Office of the University Registrar 2121 Euclid Avenue Cleveland, OH 44115-2214

Campus Location Keith Building 1400 1621 Euclid Avenue

Phone: 216.687.5411 registrar@csuohio.edu

Web Content Contact
Office of the University Registrar registrar@csuohio.edu
216.687.3700

Web Technical Contact Anthony Roundtree a.roundtree@csuohio.edu 216.523.7408

## **Academic Calendar**

Fall 2007	Spring 2008	Summer 2008
Fall Exam Schedule	Spring Exam Schedule	Summer Exam Schedule

Spring Semester 2008		
First Saturday Class begins	Jan 12	
Martin Luther King Day (University Holiday)	Jan 21	
First Weekday Class	Jan 14	
Last Day to Add (at 8:00 pm)	Jan 18	
Last Day to Drop (at 8:00 pm)	Jan 25	
President's Day (University Holiday)	Feb 18	
Democratic Party Presidential Debate (Classes Canceled)	Feb 26	
Midterm Grades	Mar 3-9	
Spring Recess	Mar 9-16	
Classes Resume	Mar 17	
Last Day to Withdraw (at 8:00 pm)	Mar 28	
Last Day of Classes	May 2	
Final Exams	May 3-9	
Commencement	May 10	
Spring Incomplete Deadline	Sept 19	

Specific course begin and end dates are available through CampusNet in the term in which they are offered.

Beginning Summer 2005, courses that contain begin and end dates that do not fit in traditional sessions may also be scheduled in an alternative session indicated by ALT in CampusNet. Add/drop/withdrawal deadlines for courses scheduled in an alternative session (ALT) are adjusted accordingly for the length of the session.

\* The only time Saturday classes are not held in observance of a holiday is for the Thanksgiving Recess, unless an actual holiday falls on a Saturday (i.e. Saturday, July 4, 2009).

Academic Calendar dates are subject to change, please consult CampusNet for specific course begin and end dates.

The University is closed on University Holidays unless otherwise noted above.

Choose Calendar View

Fall 2007-Summer 2008

Fall 2008-Summer 2009

Fall 2009-Summer 2010

Fall 2010-Summer 2011

Fall 2011-Summer 2012

Fall 2012-Summer 2013

Printer-friendly version of

the 2007-2013 Calendar

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## Campus E-mail

## E-MAIL LOGIN

Login: Campus Webmail

Students, Faculty, and staff all have a CSU email account and now have more choices than ever on how to receive their CSU email.

Every Student is supplied with an email address that is used by faculty and administrative offices for sending CSU-specific e-mail. It is the student's responsibility to ensure that this email is received.

Students, faculty, and staff can:

- use Campus Webmail or Campus Deskmail
- forward their email to another email system or
- use Outlook, Eudora, or other email clients to receive their email.

Furthur information on e-mail options, instructions, features, and training is available through the <u>Information Services & Technology</u>.

## **CAMPUS MAIL BAG**

The <u>Campus Mail Bag</u> contains announcements for students, faculty and staff as well as information on upcoming events. The Campus Mail Bag is accessible from any PC with an Internet connection. Visit the Campus Mail Bag each day as updates are posted frequently. Please review the <u>Guidelines for the Campus Mail Bag</u>.

For more information regarding e-mail and the Campus Mail Bag, please contact Information Services & Technology at 216.687.5050 or call.center@csuohio.edu.

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## Cleveland State University

# Center for eLearning

FOR FACULTY

**About the Center** 

eLearning@CSU

**Blackboard CE6** 

For Students

For Faculty

**Mailing Address** 

Cleveland State University Center for eLearning 2121 Euclid Avenue, RT 203 Cleveland, OH 44115-2214

Campus Location Rhodes Tower 203 1860 E. 22nd St.

Phone: 216.687.3960 elearning@csuohio.edu

What is eLearning?

eLearning courses can be delivered in a variety of ways, including fully online courses, blended courses, or interactive video distance learning. Find out more <u>about eLearning</u>, including a complete schedule of elearning courses.

### **Announcements:**

New eLearning Website » eLearning in CampusNet »

Request your CE6 course »

Migrate your WebCT courses »

Blackboard CE 6

Students and faculty can find FAQs and support documentation for CE6 at the Ask eLearning Knowledge Base.



Information & Resources for Students

Are you ready for online learning? Need help? Find answers to your questions in the For Students section.
Or, begin by browsing through CSU's online Courses & Programs.



Information & Resources for Faculty

Whether you are an expert in eLearning, or a novice, the Center has information and resources that can support your eLearning goals.

About the Center | Courses & Programs | Blackboard CE6 | For Students | For Faculty

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This page last modified Tuesday, January 29, 2008

## Cleveland State University

## About Site

Contact
Dan Arthur
University Web Director
MM 305
Phone: 216.523.7226
d.arthur91@csuohio.edu

#### **User Information**

Review this page for specific information on how to navigate Cleveland State's web site. Please direct all questions and comments to Dan Arthur, university web director, at 216.523.7226 or <a href="mailto:d.arthur91@csuohio.edu">d.arthur91@csuohio.edu</a>.

## **Adjusting Font Size**

The web site was designed to allow users to increase or decrease the font size. This feature makes the site accessible to users with vision impairments.

If experiencing difficulty with the font sizes (i.e. they are too small), check the font size in the browser settings. The font size should be set at "Medium" (or higher) in Internet Explorer, "Normal" (or higher) in Firefox, or "100%" (or higher) in Netscape.

To change the font size in Internet Explorer, locate the tool bar at the top of the browser window. Click on "View" and then mouse over "Text Size." Select "Medium" (or higher if desired).

To change the font size in Firefox, locate the tool bar at the top of the browser window. Click on "View" and then mouse over "Text Size." Select "Normal" or click "Increase."

To change the font size in Netscape, locate the tool bar at the top of the browser window. Click on "View" and then mouse over "Text Zoom." Select 100% (or higher if desired).

To change the font size in Safari, locate the tool bar at the top of the browser window. Click on "View" and then choose "Make Text Bigger" or "Make Text Smaller."

### **Navigating the Web Site**

Users are encouraged to browse Cleveland State's web site through sections created specifically for the University's primary audiences — Future Students, Current Students, Alumni & Friends, Faculty & Staff, and Visitors.

## **Core Information**

A navigation group of core information sources — Academics, Admissions, Research, Campuses, International Programs, Continuing Education, and Giving — is located at the top of the home page and on many of the University's web sites.

## **Information Search**

Another way for users to browse the University's web structure is through the Information Search section found on each web page. This section includes:

**A-Z Index** — an alphabetical list of the University's academic and administrative web sites. **Contact CSU** — a compilation of contact information including emergency, general, top-level administration and individual departments. The Contact CSU site contains the *Campus Directory*, which is used to retrieve contact information on faculty and staff. Users are encouraged to bookmark the Campus Directory.

**Search** — the Search web page allows users to perform a Google search of Cleveland State's web sites or the world wide web.

## **Electronic Services**

The electronic services bar — Libraries, CampusNet, Academic Calendar, Class Schedule, Campus E-

mail, and Distance Learning — is an essential resource for students, faculty and staff.

## **Browsers and Plug-ins**

The Cleveland State web site is best viewed by PC users in Internet Explorer 7.x or Firefox 2.x and by Mac users in Safari 1.x, Opera 9.x or Firefox 2.x. Users are strongly encouraged to download the most recent version of their preferred browser by clicking on the associated link above. Since Microsoft no longer supports Internet Explorer for Mac, Mac users are discouraged from using Internet Explorer to browse the Cleveland State web site.

Free plug-ins that may be required to view the Cleveland State web site include <u>Adobe Reader</u>, <u>Quicktime</u>, <u>RealPlayer</u>, and <u>Media Player</u>.

## **Screen and Browser Settings**

The Cleveland State web site is best viewed at 1024 x 768 screen resolution, however, the site will accommodate 800 x 600 screen resolution.

## **Changing Resolution in Windows**

Right click on your desktop. From the menu that appears, select "Properties." The "Display Properties" box opens. Click the "Settings" tab. Under "Screen Area" (near the bottom), slide the ruler to the right until "1024 by 768 pixels" appears below the slide rule. Click "OK." When asked "Do you want to keep the settings?" click "Yes."

## Changing Resolution in OS X

Open the "System Preferences" (either from the Dock or from the Apple menu). Open the "Displays" Panel and choose the "Display" tab. On the left of the Displays tab select the 1024x768 or 1024x768 resolution from the list. Higher resolutions allow you to see more of the page. Quit or close the "System Preferences" when done.

### **Changing Resolution in OS 9**

From the Apple menu select Control Panels > Monitors. On the Monitors dialog box, make sure you have selected the Monitor panel (click the Monitor button – it has a sun-like icon). On the right of the Monitor panel is a Resolution list. Select one from the list and your monitor will immediately change its resolution to the one you selected. When you are satisfied with your display resolution, close the Monitor/Display Control Panel (File > Quit or just click the close box).

### **Web Administrators and Editors**

When redesigning or maintaining a web site, web administrators and editors should visit the <a href="Web">Web</a>
<a href="Standards">Standards</a> site for detailed information on site design, navigation and template use. In addition, web administrators and editors are required to review the <a href="Legal Notices for the Web">Legal Notices for the Web</a> prior to posting content on any University web site.

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## **Accrediting Agencies**

Cleveland State Program

Cleveland State University **Accrediting Agency** 



NCA 2000 Accreditation Self-Study

Counseling Center <u>International Association of Counseling Services ("IACS")</u>

Health and Wellness Accreditation Association for Ambulatory Health Care
Service

International")

Nance College of
Business
Administration

BBA Program
MBA Program
DBA Program
DBA Program
Accounting Programs

Association to Advance Collegiate Schools of Business ("AACSB International")

Accounting Programs

College of Education & Human Services	National Council for the Accreditation of Teacher Education ("NCATE")  Approved by: Ohio Department of Education
Community Agency Counseling Program	Council for Accreditation of Counseling and Related Educational  Programs ("CACREP")
School Counseling Program	Council for Accreditation of Counseling and Related Educational Programs ("CACREP")
Nursing: Undergraduate Program	Commission on Collegiate Nursing Education ("CCNE") Approved by: Ohio Board of Nursing
Nursing: Graduate Program	Commission on Collegiate Nursing Education ("CCNE")
Master of Public Health Program	Council on Education for Public Health ("CEPH")
Fenn College of Engineering	
Bachelor of: Chemical Engineering Civil Engineering Computer Engineering Electrical Engineering Industrial Engineering Mechanical Engineering	Engineering Accreditation Commission of the Accreditation Board for Engineering & Technology ("EAC/ABET")
Bachelor of Science in Electronic Engineering Technology	Technology Accreditation Commission of the Accreditation Board for Engineering & Technology ("TAC/ABET")
College of Liberal Arts & Social Sciences	
Music	National Association of Schools of Music

Social Work: Bachelor of Social Work Master of Social Work	Council on Social Work Education ("CSWE")
College of Science	
Chemistry	Approved by: American Chemical Society
Clinical Chemistry PhD	Commission on Accreditation in Clinical Chemistry ("ComACC")
Occupational Therapy, Master of	Accredition Council for Occupational Therapy Education
Physical Therapy, Master of	Commission on Accreditation in Physical Therapy Education
School Psychology Specialist	Approved by: National Association of School Psychologists ("NASP") and National Council for the Accreditation of Teacher Education ("NCATE")
Speech-Language Pathology	American Speech-Language and Hearing Association ("ASHA")
graduate academic program	ASHA Council on Academic Accreditaion ("CAA")
graduate clinical program	ASHA Professional Services Board ("PSB")
Mayina Caadman	
Maxine Goodman Levin College of Urban Affairs	
Public Administration:  MPA	National Association of Schools of Public Affairs and Administration ("NASPAA")
Master of Urban Planning, Design & Development: MUPDD	Planning Accreditation Board

Cleveland-Marshall
College of Law

American Bar Association

Member: Association of American Law Schools

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## Legal Notices

## **DISCLAIMER**

Although Cleveland State University attempts to keep all information on its web site accurate and up-to-date, the accuracy and timeliness of the information provided cannot be guaranteed. Cleveland State University provides all information "as is" and makes no representations or warranties of any kind regarding this information. Cleveland State University disclaims all liability of any kind whatsoever arising out of your use of, or inability to use, its web servers and the information contained on them.

## SUBMITTED MATERIALS

All parties submitting materials to the Cleveland State University web servers represent and warrant that the submisssion, installation, copying, distribution, and use of such materials in connection with the web servers will not violate any other party's proprietary or civil rights. The submitter understands and agrees that Cleveland State University is not responsible for any errors created in, or damage to materials as a result of, the installation or maintenance on Cleveland State University machines, or their use by anyone accessing the Cleveland State University web servers. All material submitted for distribution must be in accordance with existing Cleveland State University regulations and policies.

Materials intended for the online versions of the University catalogs must be submitted to the Office of Academic Affairs for approval. This approval must be obtained before these materials can be placed online. Any substantive curricular changes to the online catalogs must specifically identify an effective date that coincides with the catalogs' biennial cycles of hard copy publication.

## **AUTHORIZED USE**

Cleveland State University's web site is designed to support the mission of Cleveland State University and to provide links to specific external sites. Use of this system for any purpose other than that for which it was designed is unauthorized and prohibited.

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# Affirmative Action Office

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**Non-Discrimination** 

Statement

Complaint & Grievance

**Procedures** 

**Sexual Harassment Policy** 

Information for

Persons with Disabilities

Information for Veterans

Job Line

**Contact Information** 

**Mailing Address** 

Cleveland State University Affirmative Action Office 2121 Euclid Avenue AC 236 Cleveland, OH 44115-2214

Campus Location 2300 Euclid Avenue AC 236

Phone: 216.687.2223 Fax: 216.687.9274

## **NON-DISCRIMINATION STATEMENT**

Cleveland State University is committed to the principle of equal opportunity in employment and education. No person at the university will be denied opportunity for employment or education or be subject to discrimination in any project, program, or activity because of race, color, religion, national origin, sex, age, sexual orientation, handicap or disability, disabled veteran, Vietnam era veteran or other protected veteran status.

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## Employment



## **EMPLOYMENT OPPORTUNITIES AT CLEVELAND STATE**

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• Faculty and Staff Positions

## **Opportunities for Students**

- Student Employment
- Federal Work-Study
- Cooperative Education Program
- America Reads Program

## **Opportunities for Graduate Students**

• Graduate Assistantships

### **Campus Partners**

View employment opportunties with the following partners:

- Bookstore
- Child Development Center
- Dining Services
- Recreation Center
- Residence Life
- Wolstein Center

## **Services for Alumni**

• Placement through Career Services

## **Information for Current Employees**

- Department of Human Resources Development and Labor Relations (216.687.3636)
- Affirmative Action Office (216.687.2223)

## Resources

- Profile of Cleveland State
- Campus Map & Tour

Cleveland State University is an Affirmative Action, equal opportunity employer. Women and minorities are encouraged to apply.

Cleveland State University provides reasonable accommodation for individuals with disabilities.

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arts and humanities

business administration

education

engineering

health professions

natural sciences

social and behavioral sciences

urban affairs

CERTIFICATE AREAS

ADDENDA







## english courses

**ENG 500** British Literature Survey I (4-0-4)Survey of British literature from Anglo-Saxon times to 1789, for beginning graduate students who need to supplement their undergra.duate preparation for literary study. Does not count toward the M.A. in English.

**ENG 501 British Literature Survey II (4-0-4).** Survey of British literature from 1789 to the present, for beginning graduate students who need to supplement their undergraduate preparation for literary study. Does not count toward the M.A. in English.

**ENG 506** Composition Theory (4-0-4). Advanced study in expository writing: writing processes, reading and writing, rhetoric, evaluation, and pedagogy. Offered fall semester. Required of beginning teaching assistants, except for those who took ENG 308 Composition Theory as undergraduates.

**ENG 507 Workshop in Teaching (1-5-1).** Relation of composition theory to the practice of tutoring and teaching. Required for teaching assistants, except for those who took ENG 309 Writing Center Practicum as undergraduates. Meets once a week during fall and spring semesters. If credits are taken in fall semester, they will be graded T, with the grade assigned at the end of spring semester. Students may, if they wish, begin participating in ENG 507 in fall semester and register for ENG 507 credits in spring semester rather than in fall. May be taken S/F.

ENG 508 Writing Institute For Teachers (two to four credits). Workshop and practicum in the teaching of writing, exploring current trends such as whole language approaches, writing across the curriculum, or writing about the arts. When offered in summer as SWIFT, this course is presented in collaboration with the Great Lakes Theater Festival.

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**ENG 509** Technical Writing (two or three credits). Preparation of reports, scientific papers, and other genres of technical writing, with emphasis on audience, voice, the proper formatting of data, and the integration of text with graphic and visual material. When offered for three credits, the course includes

a major writing project as well as shorter assignments.

- **ENG 510** Practical Criticism (4-0-4). Essentials of practical criticism with emphasis on close reading of selected masterworks that represent various genres and historical contexts. Core course required of all M.A. candidates. Offered fall semester.
- **ENG 511** Critical Approaches to Literature (4-0-4). Critical approaches to literature and the theories that underlie them, including formalist, reader response, deconstructionist, new historicist, feminist, and other post-structuralist approaches. Core course required for M.A. candidates in the literature concentration. Offered spring semester.
- **ENG 512** Craft of Literature (4-0-4). Genres of fiction, poetry, and drama studied with an emphasis on the craft of the practitioner. Literary texts are used to demonstrate the formal range of the genres studied. Craft exercises are used to explicate the operations and assumptions underlying literary techniques. Core course required for M.A. candidates in the creative writing concentration. Offered spring semester.
- ENG 513 Language of Literature (4-0-4). Literary discourse; topics center on the structure and form of literary expressiveness; option and choice; linguistic form as the expression of meaning. Counts as an introductory linguistics course in the TESOL endorsement program.

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- **ENG 514 Studies in Linguistics (4-0-4).** Topics include historical linguistics, history of the English language, grammar, sociolinguistics, or analysis of an uncommonly taught language such as Sanskrit or Armenian. May be repeated with change of topic. Courses count as TESOL endorsement electives. Note: when the topic is Modern English Grammar, ENG 514 counts as an introductory linguistics course in the TESOL endorsement program.
- **ENG 515** Studies in Rhetoric (4-0-4). Authors, themes, genres, or periods in the theory and practice of rhetoric.
- **ENG 516** Style, Voice, and Persona (4-0-4). Experiments in the deliberate creation of authorial voice and persona through the manipulation of linguistic tools such as diction, syntax, and punctuation.
- **ENG 531** Studies in Medieval Literature (4-0-4). Topics include Arthurian tradition, women and writing in the Middle Ages, Chaucer, Malory, or courses in medieval genres or themes. May be repeated with change of topic.
- **ENG 532** Studies in Renaissance Literature (4-0-4). Sixteenth- and 17th-century authors, genres, themes, or movements including humanism, the Reformation, metaphysical and cavalier poetry, scientific empiricism, and neoclassicism. May be repeated with change of topic.

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- **ENG 533** Studies in 18th-Century Literature (4-0-4). Authors, genres, themes, or movements in 18th-century poetry and fiction. Topics include the Enlightenment, satire, rise of the novel, and neo-classical and pre-Romantic poetry. May be repeated with change of topic.
- **ENG 534** Studies in 19th-Century Literature (4-0-4). Romantic and Victorian authors, genres, themes, or movements. May be repeated with change of topic.
- **ENG 535** Studies in 20th-Century Literature (4-0-4). Modern and contemporary authors, genres, themes, or movements. May be repeated with change of topic.
- **ENG 545** Studies in American Literature (4-0-4). Authors, genres, themes, or movements of significance in American literature. May be repeated with change of topic.
- ENG 547 Studies in African-American Literature (4-0-4). Authors, themes, or movements of significance in African-American literature. Topics include slave narratives, Harlem renaissance, literature of the 1950s, and African-American women authors. May be repeated with change of topic. Return to top
- **ENG 548** Studies in Multicultural Literature (4-0-4). Authors, genres, themes, or movements representing the ethnic diversity of modern American literature. May be repeated with change of topic.
- ENG 553 Studies in Themes, Genres, or Individual Works of Literature (two to four credits). Literary themes, genres, or works significant in British, American, European, or world literature. Topics in the past have included European Romanticism, the Faust theme, and Literature and Science. May be repeated with change of topic.
- **ENG 563** Gender Issues in Literature (4-0-4). Studies in gender theory and gender issues in literature. Topics may include contemporary feminist themes; the intersection of gender, race, and class; the relationship of gender to voice; technique and genre; and how questions of language are linked to these issues. May be repeated with change of topic.
- **ENG 575** Major Author (4-0-4). Intensive study of a single major author. May be repeated with change of topic.
- **ENG 580** Imagination Conference (4-0-4). Prerequisite: Permission of instructor, based on manuscript submission. Intensive five-day summer workshop with visiting writers (fiction, poetry, and creative non-fiction);

"craft" analyses of creative writing. Students complete a manuscript at the end of the semester as well as an essay about technical or craft elements. In addition to tuition, students are charged a Workshop and Materials Fee. Additional information is available at the Imagination Conference web site at www.csuohio.edu/poetrycenter/imagination. May be repeated with change of topic.

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**ENG 596** Independent Study (one to four credits). Prerequisite: Prior written approval from Graduate Committee. Study of a topic not offered as a regular course, under the supervision of a graduate faculty member.

**ENG 602** Creative Writing (4-0-4). Prerequisite: Admission to the creative writing concentration or permission of instructor. Graduate-level work in the writing of poetry, fiction, non-fiction, and drama. May be repeated with change of topic.

**ENG 695** Graduate Seminar (4-0-4). Study of an important topic in literary or cultural history, criticism, or rhetoric, with special emphasis on methods of analysis and research. May be repeated with change of topic.

**ENG 699** Thesis (one to four credits, repeated for a minimum total of five credits). Writing of a Master's Project under the direction of a faculty member. Required for all M.A. degree candidates.

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GENERAL INFORMATION

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education

engineering

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natural sciences

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CERTIFICATE AREAS

ADDENDA

history





# history & art history courses

HIS 500 Local History Seminar (4-0-4). The course explores the social, economic, political, and cultural history of Cleveland and northeastern Ohio from 1800 to the present. It uses primary materials to generate student research projects on a variety of selected topics. Specific topics vary from term to term. Return to top

HIS 501 American Cultural History, 1865 to the Present (4-0-4). Study of the social and cultural history of the United States, emphasizing the ways in which beliefs, values, and world views of the American people are related to prevailing social conditions.

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HIS 502 History of American Political Parties (4-0-4). Survey of the development of the American party system from 1800 to the present. Examines distinctions between party and faction, Federalist party, Jacksonian Democratics, Whigs and Republicans, third parties, party organization at local and national levels, voting behavior, and election strategies. Return to top

HIS 503 Recent U.S. Social History (4-0-4). Traces social change in the United States from the Civil War to the present with special emphasis on changing social class formation, family, neighborhood, community, race, ethnicity, gender, and work. Traces major structural changes in society, politics, and economy in relation to social transformations and the impact of technological change, urbanization, and bureaucracy, as well as the field's historiography.

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HIS 504 U.S. Urban History (4-0-4). Analysis of American urban development. Focuses on spatial development of American cities and changing internal structure and institutions of cities from the colonial period through the mercantile, industrial, and post-industrial city. Traces the city's impact on migrants and others and their responses. Also considers urban historiography. Return to top

HIS 505 Social Thought of African Americans (4-0-4). Historical inquiry into the major social, cultural, and intellectual developments among African Americans, including such movements as antebellum abolitionism, African immigration, cultural and political accommodation, and Pan-Africanism and Negritude as expressed in the writings of major authors.

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HIS 506 History of Ohio (4-0-4). The early development of Ohio as a territory and a state. Topics include transportation problems and economic development, economic and social consequences of industrialization and urbanization, and ethnic composition.

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HIS 507 History of Cleveland (4-0-4). Origins and early development of Cleveland and the Western Reserve, and the emergence of Cleveland as a major industrial city. Emphasis on social, economic, technological, cultural, and political development, with special attention given to the role of ethnic and minority groups.

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HIS 508 20th-Century American Labor History (4-0-4). General survey of American labor history with particular emphasis on the impact that industrialization had on work itself. Topics include the varying strategies adopted by management to control labor, the history of labor unions, and the special role played by African Americans, women, and immigrants within the workforce.

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HIS 509 American Immigrant History (4-0-4). A survey of immigration to America from the 1830s to the present. Focuses on the religious, work, political, and cultural life of various immigrant groups, as well as the process of adaptation and Americanization. The rise of anti-immigrant movements and efforts to restrict immigration are also emphasized. Return to top

HIS 510 Indians in American History (4-0-4). A study of Native Americanwhite contact since the colonial period, emphasizing differences in cultural outlook, dispossession from Indian lands, changing political status of Native Americans, and the nature of missionary and governmental assimilation efforts. Attention is given to the dynamics of cultural conflict and Indian response to assimilation policies.

HIS 511 Introduction to Public History (4-0-4). An introduction to the applied uses of history in such areas as museums, archives, labor, historical societies, community, corporate, and oral history. Considers ethical and professional issues, grant writing, evaluation of popular and professional history presentations, and careers in public history. Involves an on-site

practicum in public history. Return to top

HIS 512 17th-Century America (4-0-4). Examination of the conquest, colonization, and settlement of the North American continent, and an investigation of the people who lived in the region from early contacts between European colonists and Native Americans through control of the region from European rivals.

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HIS 513 18th-Century America (4-0-4). Study of American Enlightenment, causes of the American Revolution, aspects of the War for Independence, the Confederation, the Constitution of 1787, the Revolutionary Settle-ment, and the rise of Jacksonian Democracy.

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HIS 514 Introduction to American Studies (4-0-4). Scope, theory, and methods of American Studies. American culture seen as a comparative phenomenon. Analysis of the interactions of social, artistic, and political behaviors in the United States. Historical period and thematic focus may vary. Return to top

HIS 517 Civil War and Reconstruction, 1848 to 1877 (4-0-4). This course examines the causes, course, and consequences of the American Civil War and Reconstruction. Particular emphasis is given to slavery and sectional differences leading to the conflict; military and political events; the impact of the Civil War and Reconstruction on American society; the emancipation experiences of African-Americans; and the struggle to redefine freedom, nationalism, and citizenship during Reconstruction.

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HIS 518 History of the Family in America (4-0-4). Survey of family life and family structure from the 17th century to the present, including roles of women and children, sexual attitudes, and ethnic and minority contributions. Research project consists of either a term paper or a reconstruction of the student's family history.

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HIS 520 U.S. Foreign Policy since 1900 (4-0-4). This course covers U.S. foreign policy from the Spanish-American-Cuban-Filipino War through the Vietnam War. Emphasis on U.S. relations with European and East Asian nations, though all parts of the world are covered. Considerable attention also is paid to the "realist" and "idealist" interpretations of U.S. foreign policy. All students are given an opportunity to conduct an independent research project. Return to top

HIS 521 United States, 1901 to 1939 (4-0-4). Study of the rise and fall of the progressive spirit in the United States; the impact of World War I on the world

and on the American people; economic, social, political, and literary survey of the jazz era; and the economic consolidation and social fragmentation of the 1920s and the Great Depression.

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HIS 522 American People in the 20th Century (4-0-4). Survey of economic, social, cultural, and political development of the American nation from the turn of the century to the present. Topics include the progressive movement; domestic and foreign policies between the wars, including the New Deal, World War II, and the Cold War; development since the end of World War II, including civil rights issues, the rise of industrial unionism, and urban problems. Not open to students who have taken HIS 521 or HIS 523.

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HIS 523 Recent American History (4-0-4). Study of the interactions among the major social, political, economic, and cultural events in the United States since 1939. Major topics include World War II, the origins and impact of the Cold War, Vietnam, the civil rights movement, and other movements for social change in the 1960s.

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HIS 524 Black Is/Black Ain't: Defining Black America (4-0-4). Explores the ways in which Americans of African descent have been defined historically by themselves and by whites. The social and political consequences of adopting these definitions are also examined. Topics include representations in law and popular/elite culture, racial thought and the rise/fall of slavery/Jim Crow, and self-definitions grounded in, among others, political and class differences.

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HIS 525 Black America Since 1945 (4-0-4). Covers the civil rights movement, sit-ins, the development of black nationalism, the urban condition, and changes in black political, social, and economic life during the last 45 years.

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HIS 526 Blackness Through the Ages (4-0-4). Examines the history of race as an idea of Western Civilization and specifically in the United States. Traces the development of racist ideas beginning with ancient Egypt, then proceeds to classical Greece and Rome, the Muslim world, Europe, and finally to the 19th-century United States.

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HIS 527 American Sexual Politics and Communities (4-0-4). Explores attempts by various groups to (re)define, regulate, and/or form communities around sexuality. The course's central theme differs each year. Topics include gay/lesbian/bisexual histories and sexuality in the U.S. Return to top

HIS 528 History of Business (4-0-4). Surveys the evolution of American business and the growth of capitalism in the U.S., focusing on several themes including the evolution of the firm, business-government relations, management-labor relations, business and society interactions, and general developments in economic thought.

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HIS 529 Black Resistance in the Age of Jim Crow (4-0-4). African Americans challenged white supremacy long before the emergence of the modern movement for civil rights. This course studies the politics of black resistance during the era of legal segregation from Plessy v. Ferguson (1896) to Brown v. Board of Education (1954). Topics include anti-lynching, the impact of rural-to-urban and southern-to-northern migration, unionization, Garveyism, communism, the roots of black power, and the ways in which African Americans confronted the rise of a racist commercial culture.

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HIS 530 History of Greece (4-0-4). A study of the development of civilization in ancient Greece from prehistoric beginnings until the death of Alexander the Great. Special emphasis is given to the rise of democracy and its expression in Athens during the Age of Pericles. The nature, extent, and interpretation of ancient evidence for historical research receives careful attention.

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HIS 531 History of Rome (4-0-4). A study of the development of civilization in ancient Italy from prehistoric beginnings until the establishment of the Roman Empire by Augustus. Special emphasis is given to the foundation legends of the city, the civil disorder of the final century of the Republic, and the period of transition from Republic to Empire. The nature, extent, and interpretation of ancient evidence for historical research receives careful attention.

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HIS 536 Tudor and Stuart England (4-0-4). The legacy of late-medieval feudal and social disorder, the emergence of a sovereign state, the Reformation, the religious and constitutional settlements, the Wars of the Three Kingdoms, the Restoration, and the Glorious Revolution are studied in the context of social and economic change.

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HIS 537 Britain, 1688 to 1832 (4-0-4). The Glorious Revolution, the military-fiscal state, the conquest of empire, the Industrial Revolution, and the age of democratic revolutions are studied in the context of political, social, and economic change.

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HIS 539 Great Britain: Empire to Welfare State (4-0-4). History of the British people since 1867, including problems created by total war, dissolution of the empire, the coming of political democracy, the establishment of the Welfare State, industrial decline, and the search for international order. Return to top

HIS 540 The Roman Empire (4-0-4). The rise and decline of the Roman Empire from the age of Augustus to the end of the fifth century, including the development of Roman government, culture, and society. Examines the growth of Christianity and the interaction of the later Empire with the "barbarian" nations, and their effects on the transformation of the western Empire into the late antique world and the early Middle Ages.

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HIS 541 Early Middle Ages (4-0-4). Political, social, economic, and intellectual life of Europe from the Fall of Rome to A.D. 1000. Emphasis on Germanic invasion, the rise of Christianity, feudalism, and manorialism. Return to top

**HIS 542** Late Middle Ages (4-0-4). European society and culture from A.D. 1000 to 1450. Particular attention is given to patterns of thought, the founding of universities, and the rise of cities and feudal monarchies.

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HIS 543 Social History of the Black Death (4-0-4). Examination of the changes created by the introduction and spread of the bubonic plague in large populations. Begins with an examination of how diseases are socially, culturally, and historically constructed, then charts the impact of the plague in the first three centuries of its spread and analyzes the social history of the period and how responses to the disease intersected with other European-wide developments.

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**HIS 544** The Renaissance (4-0-4). Examination of the period in its historical settings. Emphasis on Petrarch, Machiavelli, Galileo, and Erasmus through a study of their works. Special concentration on Italy. Return to top

HIS 545 Church, State, and Society in Reformation Europe (4-0-4).

Examines lay piety and institutions of the Catholic Church during the late Middle Ages, and the rise of Protestant doctrines and faiths in 16th- and 17th-century Europe. Analyzes impacts among various social groups, cultural manifestations of religious upheaval, religious and political ambitions, and current movements of Christian humanism and Catholic and Counter-Reformations. Covers the period from the late 15th century through 1648. Return to top

HIS 546 17th- and 18th-Century Europe (4-0-4). Examination of

Absolutism and the European state system, the social and economic system of preindustrial Europe and the rise and decline of the principal powers, including Spain, the Low Countries, France, and Prussia.

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HIS 549 France and the French Revolution (4-0-4). This course introduces students to the history of France in the 18th century and the Revolution of 1789. Examines social classes, the economy, intellectual changes, and various interpretations of the French Revolution and the debates surrounding them. Also surveys the Revolutionary and Napoleonic eras and their impact on Europe.

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HIS 550 Golden Age Spain (4-0-4). Examines the history of Spain from the late-medieval period through the 17th century from social, cultural, political, economic, and religious perspectives. Addresses key developments in the Iberian Peninsula, including encounters with the Americas, the rise of absolutism, and the Catholic and Counter-Reformations. Evaluates implications of historical interpretations of both Spain's "Golden Age" and its reputed "decline."

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HIS 551 Social and Economic History of 19th-Century Europe (4-0-4). A study of economic change and social upheaval precipitated by the French Revolution and the industrialization and urbanization of Europe. Emphasis on social class structure, urban life and problems, workers' and middle class responses to industrialization, and imperialism.

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HIS 552 Political History of 19th-Century Europe (4-0-4). Survey of the political and diplomatic problems of post-Napoleonic Europe; the Revolutions of 1848; Napoleon III and the Second Empire; problems of national unification in Germany, Italy, and Austria-Hungary; the Third French Republic; Russia's attempt to modernize; the Turkish Empire and Balkan nationalism; and the coming of World War I.

HIS 553 20th-Century Europe, 1914 to the Present (4-0-4). Lecture and group discussion approach to some of the major cultural, social, political, and economic developments in Europe since 1914; social and cultural impact of two world wars; and totalitarianism and the decline of empire. Emphasis is placed on the Cold War and events since 1945.

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HIS 554 European Women's History, 1300 to 1700 (4-0-4). Analysis of a variety of life experiences of European women from 1300 to 1700. Considers methodological issues that shaped recent practice of women's history, and examines the variety of women's roles in late medieval and early modern

society, including religion, economy, culture, and politics. Return to top

HIS 555 War and Society, 1500 to 1815 (4-0-4). The impact of the military revolution and standing armies on the changing nature of land and naval warfare, studied in the context of the emergence of sovereign dynastic and national states, European expansion overseas, the breakdown of traditional societies, and the emergence of mass societies in the age of democratic revolutions.

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HIS 556 History of European Fascism (4-0-4). Examines social, cultural, economic, and racial aspects of radical Right Wing politics which made the fascist movements such pervasive phenomena in Europe between the two world wars. The bulk of the course is devoted to the Nazi and Fascist movements in Germany and Italy and to the development of racial ideology culminating in the Holocaust.

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**HIS 557 Maritime History** (**4-0-4**). An examination of the history of ships, seafaring, and the societies to which they relate. Focus is on the Western tradition from the ancient world to the modern age. Special attention is given to the maritime history of the Great Lakes.

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HIS 558 Science and Society (4-0-4). Review of the evolution of scientific thought and method. Examines relationships between these developments and other aspects of the developing Western world view, particularly religious and philosophical components, to help students achieve science literacy.

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HIS 560 History of Russia to 1900 (4-0-4). Survey of political, social, economic, and cultural developments in Russia from the ninth century through the 19th century. Topics include the growth of the Russian autocratic state, evolution of the institution of serfdom, the position of the nobility, the emancipation of the serfs, formation of the intelligentsia, and the beginnings of the revolutionary movement.

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HIS 561 History of Modern Russia (4-0-4). History of modern Russia and the Soviet Union, including the development of capitalism and industrialization, the revolutions of 1905 and 1917, the formation and evolution of the Soviet Union, Stalinism, the collapse of the Soviet Union, and recent developments.

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**HIS 562** Modern Eastern Europe (4-0-4). Social, political, and economic history of the peoples of Eastern Europe, excluding the former Soviet Union,

from the late 18th century to the present. Topics include nationalism, modernization, cultural diversity, significance in world history, Communism, and Eastern Europe after 1989.

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HIS 565 Comparative Slavery (4-0-4). Examines the slave system which developed in the U.S. within the context of the Americas with particular attention to Brazil. Uses a comparative approach to enrich understanding of ourselves and our society. Topics include slave trade; the nature of the slave community and family life; the relationship of slavery to race, religion, and human and physical geography; and escape and other forms of rebellion. Return to top

HIS 566 Colonial Latin America (4-0-4). Examination of Latin American societies from pre-Columbian civilization to the Wars for Independence in the 19th century. Topics include the development of plural societies, economic organization, and culture.

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HIS 567 Latin America Since 1825 (4-0-4). Development of Latin American republics with emphasis on the 20th century. Topics include political and cultural nationalism, polarized societies, dependent economic systems, mechanisms of change, and relations with the United States.

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HIS 570 World History (4-0-4). A general introduction to the study of global history focusing on the evolution of factors, such as immigration, disease, nationalism, religion, and economic and political systems, which have served to connect societies. The geographic and/or thematic focus may vary from term to term. Primarily aimed at students interested in social studies teaching. Return to top

HIS 571 History of Japan (4-0-4). A survey of political, economic, social, cultural, religious, and intellectual life in Japan from the third century to the present day. Emphasis on the origin and development of traditional Japanese civilization before the impact of the modern West and the subsequent Japanese quest for international acceptance.

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HIS 572 Early Modern Japan (4-0-4). A consideration of historical change during the Tokugawa Period (1600-1868) in Japanese history, an era considered both "late traditional" and "early modern." Examines the processes of urbanization and the growth of a monetary economy, changes in social organization, major cultural innovations, intellectual movements, and the emergence of a sense of national identity.

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HIS 573 Contemporary Japan in Historical Perspective (4-0-4). Assesses

aspects of contemporary Japanese civilization and culture from the perspective of historical influences on the philosophies, institutions, and values of modern society and culture.

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## HIS 574 Revolutionary Movements in Modern China (4-0-4).

Chronologically arranged consideration of topics in the political, economic, social, cultural, religious, and intellectual life of China since the late 19th century; designed to provide an understanding of contemporary China in historical perspective.

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HIS 575 Pre-colonial Africa to 1880 (4-0-4). Survey of sub-Saharan African civilizations and the origins of the African Diaspora. Geographic coverage includes the Nile Valley, eastern Africa and the Horn of Africa, southern and West Africa, and the central African rain forest. Includes historical analysis of Nubia, Ethiopia, the Swahili, Zimbabwe, Ghana, Mali, Songhay, Ashanti, Benin, and the Kongo. The Atlantic slave trade is positioned within historical traditions of African and global history.

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HIS 576 Modern Africa Since 1880 (4-0-4). Survey of sub-Saharan African civilizations from the demise of the Atlantic slave trade through the periods of European conquest and colonial rule, the nationalist struggle for independence, and post-colonial African states. Includes African perspectives on colonialism and neocolonialism, including social, economic, political, and cultural initiatives toward independence, modernity, and an emerging role in global affairs.

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HIS 577 History of Islamic Civilizations (4-0-4). A survey of the main themes of the development of religious, cultural, social, and political patterns in central Islamic areas from the 600s to the present. Particular emphasis on the development and spread of Islam, interactions with the West, and problems of modernization.

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HIS 582 Origins and Consequences of Total War (4-0-4). Examination of the diplomatic history of the period from 1870 to 1945 within the larger framework of European international relations surrounding the First and Second World Wars. Special consideration is devoted to the role of domestic pressures in the formulation of foreign policy and the historical debates about the origins of both world wars.

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HIS 590 Introduction to Social Studies (4-0-4). This course introduces students to content issues in teaching social studies by exploring the theme of "migrations," culminating in discussion of the "Great Migration" of African

Americans to Cleveland. The course does not examine issues of pedagogy, but of content.

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HIS 593 Special Topics in History (4-0-4). Analysis of crucial problems in history. Topic varies depending on instructor. May be taken for credit more than once, but no single topic may be repeated. Topics appear in the Course Schedule.

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HIS 595 Everyday Life in Early America, 1607 to 1865 (4-0-4). An exploration of how Americans lived and thought from the earliest settlements through the Civil War. Emphasis varies from year to year, but will consider such topics as religion, reform movements, transportation, education, architecture, western expansion, foods, fads, and fashions. Return to top

HIS 601 Introduction to Graduate Study in History (4-0-4). Advanced study of history as a discipline and profession. Topics include philosophies of history, problems of historical study, and the techniques of historical research and writing. It is recommended that this course be completed prior to enrollment in a research seminar. Core course. Offered every fall semester. Return to top

**HIS 611 Seminar in American Colonial History (4-0-4).** Problems and interpretations in 17th- and 18th-century American history. Readings in secondary literature and an introduction to reference aids and sources in the field. Not offered every year.

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HIS 613 Seminar in United States History, 1800 to 1877 (4-0-4). Advanced study of selected historical problems and interpretations. Introduction to reference aids and sources. Emphasis on the Jacksonian period or the Civil War. Not offered every year.

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HIS 615 Seminar in United States History, 1897 to the Present (4-0-4). Advanced study of selected historical problems and interpretations. Introduction to reference aids and sources. Emphasis varies depending on instructor. Not offered every year. Return to top

**HIS 621 Seminar in Black History (4-0-4).** Examination of selected problems in African-American history. Introduction to sources, reference aids, and major library holdings on African Americans in the United States. Not offered every year.

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HIS 640 Issues in the History of Atlantic Societies (4-0-4). Advanced study in the history of Atlantic societies with analytical discussion of major interpretations and problems. Readings in secondary literature and introduction to reference aids and sources. Topics vary with instructor. Not offered every year.

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HIS 644 Seminar in Medieval European History (4-0-4). Selected readings in the history of medieval Europe, with analytical discussion of major interpretations and problems. Introduction to the secondary literature and major sources. Topics may vary from term to term. Not offered every year. Return to top

HIS 645 Seminar in Early Modern European History (4-0-4). Critical examination and discussion of problems and interpretations of British or European social, economic, and cultural history from the 16th through the 18th century. Topics vary depending on instructor. Not offered every year. Return to top

HIS 647 Seminar in 19th- and 20th-Century European History (4-0-4). Selected topics and problems of the period. Introduction to reference aids and printed sources. Topics vary depending on instructor. Not offered every year. Return to top

**HIS 693 Seminar in Special Topics (variable credit).** Advanced study of selected historical problems and interpretations. Topics vary depending on instructor. Topics appear in the Course Schedule.

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**HIS 695** Research Seminar in American, European, or Social History (4-0-4). Directed research on selected areas of American and European history. Emphasis varies depending on instructor. Core course. Offered every spring. Return to top

HIS 697 Independent Study in History (one to four credits). Individual readings and research on topics that are not a part of current course offerings. Requires permission of instructor and program director.

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**HIS 699** Thesis (one to four credits). May be repeated for a total of 10 credits.

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## **Studio Art Courses**

ART 505 Museology: Exhibition Planning and Design (2-6-4).

Prerequisite: Special permission of the instructor. A practical guide for the planning and design of exhibitions as an introduction to the field of Museum Studies.

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**ART 511 Drawing: Advanced Studio (2-6-4).** Prerequisite: Special permission of the instructor. Advanced investigation into experimental approaches to drawing. May be repeated for up to 12 credits. Return to top

**ART 521 Painting: Advanced Studio (2-6-4).** Prerequisite: Special permission of the instructor. Advanced investigation into more experimental approaches to painting. May be repeated for up to 12 credits.

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**ART 526 Sculpture: Advanced Studio** (**2-6-4**). Prerequisite: Special permission of the instructor. Development of individual approaches to three-dimensional form. May be repeated for up to 12 credits. Materials fee. Return to top

**ART 531 Printmaking: Advanced Studio (2-6-4).** Prerequisite: Special permission of the instructor. Advanced individualized studio projects utilizing printmaking processes. May be repeated for up to 12 credits. Materials fee. Return to top

**ART 532 Photography: Advanced Studio (2-6-4).** Prerequisite: Special permission of the instructor. Advanced study of photographic techniques and concepts with emphasis on the development of personal style. May be repeated for up to 12 credits. Materials fee.

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ART 544 Computer Graphics I: Advanced Studio (2-6-4). Prerequisite: Special permission of the instructor. Advanced study of raster-based imagery (Photoshop) or graphic and text imagery for publication (Quark Xpress or PageMaker). May be repeated for up to 12 credits. Materials fee. Return to top

**ART 545** Computer Graphics II: Advanced Studio (2-6-4). Prerequisite: Special permission of the instructor. Advanced study of vector-based imagery (Illustrator) or multimedia production. May be repeated for up to 12 credits. Materials fee.

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**ART 546** Ceramics: Advanced Studio (2-6-4). Prerequisite: Special permission of the instructor. Continuation of individual development of personal style. May be repeated for up to 12 credits. Materials fee.

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ART 693 Special Topic in Studio Art (0-2-1, 1-3-2, 1-5-3, or 2-6-4).

Prerequisite: Special permission of the instructor. Intensive study of a subject or topic to be announced in advance. May be repeated for credit. May have materials fee.

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**ART 696** Independent Studies in Advanced Studio Art and Design (0-2-1, 1-3-2, 1-5-3, or 2-6-4). Prerequisite: Written permission of instructor and art advisor. Studio projects in advanced work. Sections are: (1) computer graphics, (2) ceramics, (3) drawing, (4) painting, (5) photography, (6) printmaking, (7) sculpture, (8) other<four credits, or (9) other<two credits. Return to top

## **ART History Courses**

**ART 556** Gothic Art (4-0-4). The history of the art and crafts of Western Europe in the later Middle Ages.

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**ART 563** The Early Renaissance in Italy (4-0-4). The history of art and architecture in Italy from the rise of the city-state to the voyages of Christopher Columbus, from Giotto to Leonardo da Vinci.

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**ART 564** The High Renaissance and Mannerism in Italy (4-0-4). The history of art and architecture in Italy during the time of Leonardo da Vinci, Michelangelo, Raphael, and their followers.

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**ART 565** The Renaissance in Northern Europe (4-0-4). The history of the arts in the court of the dukes of Flanders and of the kings of France, from Pucelle to Bruegel.

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**ART 570 American Visual Culture (4-0-4).** American visual culture from the late 19th through the 20th centuries. Focuses on the interrelationship between traditional art media and visual forms of American popular and mass culture, considered within their appropriate social and political contexts.

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**ART 571 Art in the 19th Century (4-0-4).** A survey of art and culture focusing on romanticism and landscape painting; the deterioration of the distinction between "high" and "low" art forms; the transformation of the

modern metropolis; and women, the "Orient," and the "primitive" within art and society.

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**ART 572 Art in the 20th Century (4-0-4).** The survey of art focusing on several nations and themes, including the concept of the avant-garde; the place of the gendered body; the development of abstraction; censorship from fascism to the present; the role of photography and mechanization; and postmodernism. Return to top

**ART 573** On the Edge: Art since 1968 (4-0-4). International directions in visual culture since 1968 with emphasis on the development of new media such as performance, conceptualism, video, film, and installation. Exhibition and the increasing importance of race, class, gender, and sexual identity within global culture are discussed.

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**ART 541 Valuing Processes in the Visual Arts (4-0-4).** An exploration of art criticism and aesthetics as part of a comprehensive art education program with practical applications in pre-K-12 settings.

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**ART 641 Art in Social and Vocational Contexts (4-0-4).** An introduction to philosophical and historical issues in art education with an emphasis on alternative venues for teaching art to varied populations. Return to top

**ART 574** American Architecture (4-0-4). A historical analysis of the built environment from the 17th century to the present. Various styles and types of buildings are related to time and place, defining and identifying central characteristics, social function, cultural expression, technology, and changes in architectural practice.

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**ART 575** Cities and Planning (4-0-4). Humankind's communal environment since ancient times; social, symbolic, functional, and biotechnical domains as generators of architecture and urban planning; value systems in environmental change; policies, plans, and design proposals as the record of the humanized environment.

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ART 576 Architectural History: Great Monuments of Western Architecture in the Urban Context (4-0-4). An inquiry into the forms and meaning of architecture from antiquity to the present.

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**ART 583** Indian Art (4-0-4). The history of Indian art from the Neolithic

period through the late medieval period. Return to top

**ART 584 Buddhist Sculpture (4-0-4).** An in-depth study of Buddhist sculpture in India and its spread to Tibet, China, and Japan with special emphasis on iconography and stylistic development.

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**ART 585** The Hindu Temple (4-0-4). A historical study of the development of the Hindu temple beginning with simple flat-roofed structures and culminating with later multi-structured temple complexes. Architectural form and iconographical program are equally stressed, as are Indo-Aryan and Dravidian styles.

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**ART 586 Regional Art in Africa** (4-0-4). Examines the historical arts of a selected region of Africa from the archaeological past to contemporary movements. May be repeated for credit when the treated region changes. Discussed regions include Western Sudan, the Guinea Coast, Central, South, and East Africa.

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**ART 588 African-American Art (4-0-4).** The history of African-American art and architecture in the diaspora from colonial times to the present. Return to top

**ART 590 Art History Internship (one to eight credits).** Approved internship with an external museum or other appropriate program. Grading is on an S/F basis.

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**ART 594 Special Topics in Art History (two or four credits).** Intensive study of a relatively narrow subject or topic to be announced in advance. May be repeated for up to 12 credits.

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**ART 675** Cleveland: Form and Development of an Urban Environment (4-0-4). Workshop which examines aspects of visual communication relative to the city.

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**ART 695 Art Seminar (4-0-4).** Prerequisite: Permission of instructor. Close examination of a topic through research and discussion, with emphasis on the social context of art. Topic is selected jointly by instructor and students. May be repeated for credit. Normally offered every semester.

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**ART 697** Independent Reading and Research: Art History (one to four credits). Prerequisite: Written permission of instructor and Graduate Adviser. Study of a topic of special interest to the particular student. Subject and plan of study to be decided jointly by student and instructor. May be repeated for credit.

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**ART 699** Thesis (one to four credits). Directed research under supervision, culminating in the writing of a thesis.

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#### **ART Education Courses**

**ART 541 Valuing Processes in the Visual Arts (4-0-4).** An exploration of art criticism and aesthetics as part of a comprehensive art education program with practical applications in pre-K-12 settings.

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**ART 593** Special Topics in Art Education (4-0-4 or 2-6-4). Intensive study of a relatively narrow subject or topic to be announced in advance. May be repeated for credit.

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**ART 596** Independent Reading and Research: Art Education (two or four credit hours). Prerequisite: Written permission of instructor. Study of an art education topic of special interest to the particular student. Subject and plan of study to be designed jointly by student and instructor. May be repeated for credit.

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ART 641 Art in Social and Vocational Contexts (4-0-4). An introduction to philosophical and historical issues in art education with an emphasis on alternative venues for teaching art to varied populations.

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# music courses

MUS 501 University Chorus (0-4-1). Open to all University students with permission of instructor. Previous music performance experience is recommended. Covers a wide variety of music by major composers. May be repeated and may be taken with or without credit.

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MUS 502 Band/Wind Ensemble (0-4-1). Open to all University students, but registration and participation are permitted only after consulting with the director. The repertoire is selected according to the nature of each performance, with emphasis on music for wind band. May be repeated and may be taken with or without credit.

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MUS 503 Collegium Musicum (0-4-1). Membership by audition. Small ensemble of singers and instrumentalists who study and perform chamber music of all eras, with emphasis on music written prior to 1750. May be repeated and may be taken with or without credit.

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MUS 504 University Orchestra (0-4-1). Open to all University students, but registration and participation are permitted only after consulting with the director. May be repeated and may be taken with or without credit.

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MUS 505 CSU Chorale (0-4-1). A selected ensemble of approximately 30 voices chosen by audition. Provides an advanced challenge and opportunity to those with singing experience. Music from all cultural epochs. May be repeated and may be taken with or without credit.

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MUS 506 Chamber Ensemble (0-2-1). Small ensemble performance featuring one instrument or voice to a part. May be repeated for credit. Return to top

MUS 507 Jazz Ensemble (0-4-1). Entrance by audition. Provides experience in reading and performing big band arrangements and compositions. May be repeated and may be taken with or without credit.

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MUS 508 Opera Workshop (0-4-1). Entrance by audition. Practical experience in opera performance and production. May be repeated for credit. Return to top

MUS 509 New Music Ensemble (0-4-1). Prerequisite: Permission of instructor. Primarily a laboratory performing activity concerned with extending instrumental and vocal techniques and realizing new notational methods. May be repeated for credit.

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MUS 510 The Business of Music (3-0-3). An overview of business practices and how they affect musicians. Team taught. Topics include auditions, promotional materials, recording, concert production, contracts, copyrights, management, unions, taxes, and grant writing.

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MUS 511 Music History I (3-0-3). Survey of musical development, life, and thought in individual periods, with particular emphasis on style characteristics and musical literature of individual composers from the Middle Ages through the baroque period. Intended as a remedial course.

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MUS 512 Music History II (3-0-3). Survey of the musical development, life, and thought in individual periods, with particular emphasis on style characteristics and musical literature of individual composers from the Classic era through the present day. Intended as a remedial course.

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MUS 514 Introduction to World Musics (3-0-3). Approaches to the study of non-Western art music. Emphasis on the musics of India, China, Japan, Indonesia, Sub-Saharan Africa, Native America, and the Australian Aborigine. Opportunity for field study in the ethnic music of Greater Cleveland. Return to top

MUS 515 World Music Studies (3-0-3). In-depth study of the music of particular non-Western musical cultures. Content rotates among the cultures listed under MUS 514.

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MUS 520 Composition (three credits). Tutorial sessions with members of the composition faculty leading to the creation of original compositions for solo, chamber, vocal, choral, orchestral, and electronic media in various forms

using a variety of contemporary materials. It is a requirement that all graduate students enrolled in MUS 520 register for MUS 521 Composition Forum (a weekly meeting of all enrolled composition students).

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MUS 521 Composition Forum (1-0-1). Weekly meeting of composition students that deals with issues pertaining to creative work. Guest composers, critiques of original work, analysis of styles and techniques, and other topics. Return to top

MUS 527 Computer Music and MIDI I (3-0-3). Prerequisite: Keyboard pitch and rhythm identification. MIDI Basics. An overview of Channel Voice and Mode Messages, System Common, Real Time, and Exclusive Messages. Standard MIDI files and MIDI Machine Control. General MIDI and MIDI Show Control. Introduction to Finale and the Digital Audio Workstation. Assigned studio time for individual and class composition projects. Return to top

MUS 528 Computer Music and MIDI II (3-0-3). Prerequisite: Keyboard pitch and rhythm identification. Sampling Basics. An overview of the sampling process using the EMU II sampling keyboard. Mic or line-level sampling, input levels, sample length, rate, cross-fade and butt splices, loops, sustain and percussive envelopes, key splits, layered keyboards, and velocity sensing. Microphone pick-up patterns for the sampling session and interfacing the sampler with recorders. Assigned studio time for individual and class composition projects.

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**MUS 551** Orchestration (3-0-3). Study of individual instruments and problems of scoring in 20th-century music. Examination of a wide range of orchestral literature from the standpoint of orchestration. Correlated exercises in scoring for orchestra.

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MUS 554 Foundations and Principles of Music Education (3-0-3). The philosophies, histories, and practices of learning in music education.

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MUS 556 Lyric Diction (3-0-3). Diction for singers. Texts from vocal literature in German, French, Italian, and other languages. Use of international phonetic alphabet.

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MUS 575 Workshop (variable credit). Presentations, including student participation, offering a wide range of topics for professional development. Return to top

MUS 576 Extended Workshop (variable credit). Special registration for those workshops that extend beyond the semester. Students receive a T grade until the completion of the workshop, at which time a course grade will be assigned.

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MUS 584 Seminar in Music Education (3-0-3). Treatment of topics particularly relevant in public schools at the current time.

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MUS 589 Colloquium (variable credit). Interaction among faculty and students on a wide range of topics of mutual interest.

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MUS 593 Special Topics (variable credit). Consideration of interdisciplinary issues, performance problems in various eras, ethnic music, theoretical investigations, and other topics. May be repeated for credit with change of topic.

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MUS 595 Music History Seminar (3-0-3). Selected topics from the Middle Ages through the 20th century. Genre studies, broad topics in history, specific literature of single or groups of composers. May be repeated with change in topic.

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MUS 600 Musicology Topics (3-0-3). Contents change with each offering. Aspects of traditional historical, comparative, and systematic musicology and recent developments in the field, including interdisciplinary topics and an introduction to semiotics. Includes bibliographic procedures and research methods.

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MUS 602 Analytical Techniques (3-0-3). An examination of contemporary analytic theory as presented in the writings of prominent 20th-century theorists and as applied to literature of various styles from all historical eras. Return to top

MUS 611 Research Techniques in Music Education (4-0-4). Survey of existing research in music education. Research methodology and introduction to statistical techniques.

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MUS 615 Teaching College Music (2-0-2). Prerequisites: Minimum eight hours of graduate credits including one core course at a grade of B or above, and permission of instructor. Materials, techniques, and internship experience in planning, teaching, and evaluating college music courses.

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MUS 621 New Music Repertoire (0-4-2). Prerequisite: Permission of instructor. A performing chamber ensemble dedicated to music literature composed since 1950, with emphasis on more recent literature. May be repeated for credit.

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MUS 632 Solo Recital (0-2-2). Presentation of a full-length concert performance. Registration for MUS 632 may or may not occur concurrently with MUA 603 Recital Preparation.

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MUS 633 Ensemble Recital (0-2-2). For students focusing on conducting within the performance area. The ensemble recital may be a single public performance of an hour in length or several appearances, totalling an hour in length, spread over the course of two semesters.

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MUS 635 Composition Recital (two credits). A recital of original compositions from the composer's portfolio. The recital will normally include a performance of the master's thesis and must include a solo work, a chamber work of three or more players, and a work employing electronic media.

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MUS 679 Research Projects in Music Education (one to six credits). Prerequisite: MUS 611. Individual research projects, culminating in a paper comparable to a journal article. Students in music education elect this course if they are pursuing the "three paper option" in music education; in this case, a total of six credits is required for graduation. May be repeated for credit. Return to top

MUS 689 Composition Thesis (one to four credits). The student must submit an original composition, normally a work in one of the major forms, appropriate as a final project. Also required is a portfolio of the composer's music. Suggested categories include: solo, chamber, vocal, choral, orchestral, or electronic/computer media. A required component for graduation is MUS 635 (Composition Recital). It is a requirement that all graduate students enrolled in MUS 689 register for MUS 521 Composition Forum (a weekly meeting of all enrolled composition students). This requirement may be waived by the thesis advisor if the thesis is being completed out of residence. Return to top

MUS 696 Independent Study (variable credit). Guided instruction in topics selected by students for in-depth study usually involving topics of particular interest not included in the regular course offerings.

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MUS 698 Master's Project (one to six credits). An approved project, such as a performance, together with a final paper which is different from a thesis, composition thesis, solo recital, or ensemble recital as the summation of the master's degree program. The project should be cross-area in nature, chosen from the various areas of emphasis offered by the Music Department. Must be approved through consensus of the relevant faculty and culminate in a completed document and/or event suitable at the master's level. Available only to students seeking a degree with a cross-area emphasis or, by special arrangement, a cross-disciplinary emphasis. A total of six credits is required for graduation.

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MUS 699 Thesis (one to six credits). Subject selected must be supported by reading proficiency in languages principally involved in research sources. A total of six credits is required for graduation.

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## **Applied Music**

MUA 603 Recital Preparation (0-2-2). Selection, research, and preparation of the graduate recital. May be repeated for credit. Four credits are required for graduation for students specializing in performance.

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MUA 605 Performance Pedagogy (2-0-2). Teaching techniques related to the student's major instrument. May be repeated for credit.

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MUA 606 Repertoire (2-0-2). Study in the literature for the student's major instrument. MUA 607 Practicum in Chamber Music (0-2-2). Preparation and research of a special project from vocal or instrumental chamber music literature, leading to an informal or concert performance at the end of the semester. May be repeated for credit.

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#### **Private lessons**

MUA 601 Conducting (one credit)

MUA 602 Conducting (two credits)

**MUA 611** 

Section 1: Piano (one credit)

Section 2: Harsichord (one credit)

MUA 612

Section 1: Piano (two credits)

Section 2: Harsichord (two credits)

MUA 621 Voice (one credit)

MUA 622 Voice (two credits)

**MUA 631** Organ (one credit)

MUA 632 Organ (two credits)

MUA 641 Strings (one credit)

Classical Guitar (one credit)

Guitar (one credit)

MUA 642 Strings (two credits)

Classical Guitar (two credits)

Guitar (two credits)

MUA 651 Woodwinds (one credit)

MUA 652 Woodwinds (two credits)

MUA 661 Brass (one credit)

MUA 662 Brass (two credits)

**MUA 671** Percussion (one credit)

MUA 672 Percussion (two credits)

MUA 681 Harp (one credit)

MUA 682 Harp (two credits)

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# philosophy courses

## Advanced Undergraduate Courses\*

- **PHL 420** Reasoning in Bioethics: Basic Issues (2-0-2)
- PHL 421 Reasoning in Bioethics: Contextual Approaches (2-0-2)
- PHL 422 Clinical Bioethics: Cases I (2-0-2)
- PHL 423 Clinical Bioethics: Cases II (2-0-2)
- PHL 424 Bioethics Policy: Prevention and Access (2-0-2)
- **PHL 425** Bioethics Policy: Technology (2-0-2)
- **PHL 426** Bioethics and Law: Regulation (2-0-2)
- PHL 427 Bioethics and Law: Rights (2-0-2)
- **PHL 428** Bioethics: Special Topics (2-0-2)
- PHL 432 20th Century Philosophy: the Analytic Tradition (4-0-4)
- PHL 433 Advanced Symbolic Logic (4-0-4)
- PHL 440 Moral Reasoning and Bioethics (4-0-4)
- **PHL 441** Clinical Issues in Bioethics (4-0-4)
- **PHL 442** Policy Issues in Bioethics (4-0-4)
- PHL 443 Bioethics and the Law (4-0-4)
- PHL 453 Social, Political, and Legal Philosophy (4-0-4)
- PHL 471 Theory of Knowledge (4-0-4)
- **PHL 481** Metaphysics (4-0-4)
- **PHL 491** Research in Philosophy (one to four credits)

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#### **Graduate Courses**

PHL 505 Prominent Philosophers (4-0-4). Concentrated study of the writings of outstanding philosophers (normally no more than one to two philosophers are studied in any one offering). Normally offered every semester.

PHL 510 Studies in the History of Philosophy (4-0-4). Study of a particular philosophical movement, its assumptions, methods, and implications, or the study of one historical figure.

<sup>\*</sup>Refer to the Undergraduate Catalog for course descriptions.

- PHL 514 Predicate Logic (2-0-2). Prerequisite: PHL 131 or equivalent course in sentential logic. Course covers standard topics in predicate logic, including symbolization and proofs with monadic and relational predicates, demonstrating invalidity in predicate logic, and the logic of identity.
- PHL 515 Symbolic Logic (4-0-4). Prerequisite: PHL 131 or equivalent, or permission of instructor. A thorough study of predicate logic with identity and an introduction to the study of logical theory.
- PHL 520 Reasoning in Bioethics: Basic Issues (2-0-2). Examines alternative approaches to bioethical reasoning principlism, casuistry, and the philosophy of social justice in relation to such questions as resource allocation, death and dying, and other issues in bioethics.

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### PHL 521 Reasoning in Bioethics: Contextual Approaches (2-0-2).

Examines alternative approaches to bioethical reasoning virtue theory, narrative ethics, intuitionism, and feminist ethics in relation to such questions as informed consent, privacy, and institutional practices with special attention to cultural relativism.

- PHL 522 Clinical Bioethics: Cases I (2-0-2). This course examines reasoning regarding classic and contemporary cases in bioethics. Professional conduct, conflicts of duties and conflicts of interests, relations among professions, cultural diversity, genetic counseling, and reproductive ethics are among topics typically included.
- PHL 523 Clinical Bioethics: Cases II (2-0-2). This course examines reasoning regarding classic and contemporary cases in bioethics. Human research subjects, informed consent, competence, organ transplantation, death and dying, and futility are among topics typically included.
- PHL 524 Bioethics Policy: Prevention and Access (2-0-2). This course examines health policies regarding such issues as prevention, primary care, uninsured and underserved populations, rationing, and aims of managed care relative to theories of justice. Includes international comparisons.
- **PHL 525 Bioethics Policy: Technology (2-0-2).** This course examines the impact of rapid technological change on bioethics. Among topics typically included are DNA technology, gene therapy, enhancement of inherited traits, transplant policy, surrogacy, health, and the human environment.

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PHL 526 Bioethics and Law: Regulation (2-0-2). This course examines the

foundations of human health institutions and practices in federal tax exemption legislation, federal financing (Medicare and Medicaid), state licensure laws, state insurance legislation, and proposal for health law reform.

- PHL 527 Bioethics and Law: Rights (2-0-2). This course examines individual rights in areas such as refusal of treatment, conception, birth, abortion, protection of human subjects in experimentation, the law of medical liability, and proposed patients' rights legislation.
- PHL 528 Bioethics: Special Topics (2-0-2). This course examines special topics in bioethics.
- PHL 529 Bioethics: An Overview (1-0-1). Intended for health care professionals who desire basic information about bioethics. Focuses on moral theories, perspectives, and principles, with applications to health care issues. Facilitates active participation in health care decisions involving moral issues. Taught via the Internet.
- **PHL 540** Moral Reasoning and Bioethics (4-0-4). Critically examines systematic ethical theories and their accounts of moral reasoning in case studies and issues in bioethics. Analyzes relations between differences in levels of social organization and differences in level of moral reasoning.

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- PHL 541 Clinical Issues in Bioethics (4-0-4). Focuses on moral problems which arise in the day-to-day practices of health care professionals, administrators, and researchers within the framework of existing institutions, social policies, and laws. Includes readings on controversial moral issues in clinical ethics.
- **PHL 542 Policy Issues in Bioethics (4-0-4).** This course reviews the role of governments in developing and implementing health care policies. Readings and discussions cover such topics as surrogacy, transplantation, problems of financing, the allocation of resources, and experimentation.
- PHL 543 Bioethics and the Law (4-0-4). Students learn rudimentary legal-research skills, the structure of the legal system, and health care law as applied to classical and contemporary issues, e.g., death and dying, transplantation, genetic and reproductive law, human subjects research, and employee testing for drug use.
- **PHL 614 Logic and Its Pedagogy (2-0-2).** Prerequisite: One course in deductive logic; intended for logic TAs, and students who aim to teach introductory logic. Approaches to teaching the main topics in basic courses in deductive logic. Students prepare and teach a logic class or review session.

**PHL 615** Logical Theory (4-0-4). An introduction to symbolic logic for graduate students, and/or an examination of the issues involved in the application of symbolic logic to the description and solution of philosophical issues. Normally offered every year.

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- PHL 620 Analytic and Linguistic Philosophy (4-0-4). An overview of the central problems in linguistic analysis as they underlie philosophical issues.
- **PHL 625 Philosophy of Science (4-0-4).** A detailed study of a few central problems in either the natural sciences or the social sciences (normally the problems of only one kind of science are examined in any one offering).
- **PHL 630** Theory of Knowledge (4-0-4). Systematic investigation of one central problem in the theory of knowledge, or a thorough investigation of one important philosophic work. Normally offered every year.
- **PHL 635 Metaphysics** (4-0-4). Systematic investigation of central problems in metaphysics, or a detailed examination of one important metaphysical work. Normally offered every year.
- **PHL 640 Ethics (4-0-4).** A systematic investigation of ethical theories, or a detailed examination of one problem or theory of ethics or meta-ethics.

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- **PHL 645** Aesthetics (4-0-4). Analysis of the process of artistic judgment and artistic criticism; problems concerning the evaluation of art in a context of established standards and the evaluation of such contexts.
- **PHL 650** Social and Political Philosophy (4-0-4). The logic of social and political institutions; examination of problems concerning the determination of values, application of rules, and justification of decisions. Normally offered every year.
- PHL 689 Research Methods in Philosophy (4-0-4). An introduction to research materials and methods in philosophy. Open only to students taking another graduate course in philosophy or working on an approved research project.
- **PHL 691 Directed Research (one to four credits)**. *Prerequisite: 12 hours of graduate study or permission of instructor.* For students who wish to do research in preparation for the comprehensive examination; regular reports to advisor required. Only four credits in PHL 691 may be counted toward the M. A. degree. Graded S/F.

**PHL 693 Selected Problems (4-0-4).** Consideration of one specific issue in contemporary philosophy.

**PHL 696** Advanced Research (one to four credits). *Prerequisite: Eight hours of graduate study or permission of instructor.* For students who wish to do research in special areas; regular reports to advisor required. Only four credits in PHL 696 may be counted toward the M.A. degree.

**PHL 699** Thesis (one to eight credits). *Prerequisite: Approval of the Graduate Affairs Committee of the Philosophy Department.* A public defense of the thesis is required and will be scheduled by the Graduate Affairs Committee.

All Graduate Seminars may be repeated for credit with change in topic.

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# spanish





# spanish courses

SPN 500- and 600-level courses may be taken by students admitted to the M.A. in Spanish program or as part of the Master of Education degree program in Curriculum and Instruction. (Please see the Master of Education section of this Catalog for further information.) Other graduate students and non-degree graduate students need departmental authorization to register for graduate courses.

**SPN 501** Research Methods (two to four credits). Prerequisite: Permission of instructor. Examines the problems of current research and the techniques of research and writing. Focuses on major applications of research to literature and culture, the development of independent research projects, and scholarly criticism in the discipline. Required course.

**SPN 505** Advanced Grammar and Stylistics (4-0-4). Study of advanced grammatical problems, with contrastive analysis of selected aspects of English and Spanish. Use of stylistic elements in selected writers and for teachers. M. Ed. course.

**SPN 534** Studies in Language and Linguistics (4-0-4). Topics to be announced in the Course Schedule. May be repeated for credit with change of topic. Linguistics Studies course. M.Ed. course.

SPN 540 Field Experience Abroad (two to four credits). Prerequisites: Permission of instructor and departmental approval. Specially arranged field experience abroad, providing intensive exposure to the student's target countries and languages. May be preceded by a special preparatory course. Examples include supervised individual or group work-study experience in the target country followed by a period of travel and supervised two- to six-week group travel for students interested in a language or culture-oriented project. See the Course Schedule and contact the department office for further information. M.Ed. course.

**SPN 545** Studies in Spanish Civilization (4-0-4). Study of the civilization or culture of a particular period or of a topic, such as 20th-Century Politics in Context or Civil War Mythology in Film and Art. Topics announced in the

Course Schedule. May be repeated for credit with change of topic.

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SPN 546 Studies in Spanish-American Civilization (4-0-4). Study of the civilization or culture of a particular period or of a topic, such as colonialism, Caudillismo, art in the Caribbean, or writers of Spanish America. Topics announced in the Course Schedule. May be repeated for credit with change of topic.

SPN 564 Studies in Culture and Civilization (4-0-4). Topics to be announced in the Course Schedule. May be repeated for credit with change of topic. M.Ed. course.

**SPN 583 Studies in Spanish Literature (4-0-4).** Study of a particular period, author, or theme of Spanish literature, such as the Picaresque novel, García Lorca, or Golden Age drama. Topics to be announced in the Course Schedule. May be repeated for credit with change of topic.

**SPN 584 Studies in Spanish-American Literature (4-0-4).** Study of a particular period, author, or theme of Spanish-American literature, such as Romanticism, Rubén Darío, or indigenism. Topics to be announced in the Course Schedule. May be repeated for credit with change of topic.

**SPN 589 Studies in Literature (4-0-4).** Prerequisite: Permission of instructor. Topics to be announced in the Course Schedule. May be repeated for credit with change of topic. M.Ed. course.

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SPN 593 Special Topics in Spanish (one to four credits). Intensive study of a particular topic in Spanish language, literature, or civilization. May be repeated for credit with change of topic.

SPN 596 Independent Study (one to eight credits). Prerequisites: Permission of instructor and departmental approval. Student-initiated, supervised projects in Spanish language, civilizations, or literature; examples include in-depth study of a particular writer or specialized readings in linguistics. Project is arranged between individual student and instructor. Title of the project appears on the student's transcript. May be repeated for credit with change of topic. M.Ed. course.

**SPN 616** Seminar in Spanish Language (4-0-4). Specialized topics announced in the Course Schedule. May be repeated for credit with change of topic. M.Ed. course.

SPN 631 Teaching College Spanish (2-4-4). Prerequisite: Open only to

graduate assistants assigned teaching responsibilities. Theories and practices of teaching Spanish at the post-secondary level. Classroom activities, experience, and observation. Problems and issues of teaching Spanish at the college level. Required of teaching assistants. To be taken only once. M.Ed. course.

**SPN 665 Seminar in Hispanic Culture (4-0-4).** Topics announced in the Course Schedule. May be repeated for credit with change of topic. M.Ed. course.

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**SPN 685 Seminar in Spanish Literature (4-0-4).** Topics announced in the Course Schedule. May be repeated for credit with change of topic. M.Ed. course.

**SPN 686** Seminar in Latin American Literature (4-0-4). Topics announced in the Course Schedule. May be repeated for credit with change of topic. M.Ed. course.

SPN 696 Independent Study (one to eight credits). Prerequisites: Permission of instructor and departmental approval. Student-initiated, supervised projects in Spanish language, civilizations, or literature; examples include in-depth study of a particular writer or specialized readings in linguistics. Project is arranged between individual student and instructor; title of project appears on the student's transcript. May be repeated for credit with change of topic.

**SPN 699** Thesis (one to four credits, may be repeated, eight credit hours apply toward the degree). Prerequisite: Prior approval of Graduate Committee. Writing of a master's essay under the direction of a faculty member.

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business administration

education

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business administration:

# health care administration program





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#### M.B.A. in Health Care Administration

## **College of Business Administration**

Ahuja Hall 435 (216) 687-4711 www.csuohio.edu/mba/HealthCare.htm

#### THE FACULTY

#### **Professors:**

Charles H. Brooks, *Emeritus* Lawrence R. Walker, *Emeritus* 

#### **Associate Professor:**

Brenda Stevenson Marshall, Director, M.B.A. in Health Care Administration; Director, Master of Public Health Programs

#### **Executive-in-Residence:**

Thomas LaMotte

# **Assistant Professor:**

Doohee Lee

#### **Adjunct Instructors:**

Georgia Anetzberger Saeid Amini Thomas Campanella William F. Fallon, Jr. Vincent Kaval Dale Konrad Thomas J. Onusko Marjorie Y. Placek

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#### INTRODUCTION

Cleveland State University's Health Care Administration concentration within the Master of Business Administration program is dually accredited by AACSB International, the Association to Advance Collegiate Schools of Business, and the Accrediting Commission on Education for Health Services Administration (ACEHSA). It is one of three AACSB-accredited programs in the state of Ohio, the only accredited program in Northeast Ohio, and the only dually accredited program in the state. The program is designed to provide graduate education for individuals interested in preparing for or furthering their careers in the management and administration of all health care delivery entities, such as integrated systems, hospitals, and managed care organizations. The program also provides training leading to careers in consulting, health planning, policy analysis, and long-term care administration.

The Health Care Administration concentration provides a comprehensive academic background in management theory and practice, together with the knowledge and skills associated with the field of health care administration, planning, and policy analysis. Through this concentration, students develop an awareness of the interaction and interdependence of management, finance, economics, medicine, politics, and the social sciences. The program also provides a unique opportunity to gain valuable practical experience through professional site visits, shadowing, and an intensive administrative work experience, referred to as the internship. Both full-time and part-time students are able to complete the program through courses offered during the day and in the evening. Full-time students are usually able to complete the program in two or two-and-one-half years, while part-time students have up to six years to earn the degree.

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#### FACULTY RESEARCH AND PUBLICATIONS

The Health Care Administration faculty are actively engaged in theoretical and applied health services research and are involved in health management organizations, locally and nationally. A recent study (a first nationally) evaluated the health-seeking behavior and health practices of public housing residents in the city of Cleveland. Faculty members regularly contribute to scholarly journals, including *Medical Care*, *Healthcare Management Review*, and the Journal of Healthcare Management.

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**ADMISSION REQUIREMENTS** 

In addition to an earned baccalaureate degree, applicants for admission to the Health Care Administration specialization must meet the following requirements:

- 1. A total of at least 1,050 points based on the following formula: 200 times the overall undergraduate grade-point average plus the Graduate Management Admission Test (GMAT) score; or at least 1,100 points based on the formula: 200 times the upper-division undergraduate grade-point average plus the GMAT score. A Graduate Record Examination (GRE) score cannot be substituted for the GMAT.
- 2. The GMAT is waived for those applicants with an earned U.S. doctorate (Ph.D. or M.D.). International applicants with an earned doctorate (Ph. D. or M.D.) must present proof of U.S. equivalency. Medical doctors must be licensed to practice in the United States in order to take advantage of this waiver.

Applicants scoring at or below the 25th percentile on the GMAT are required to take "Basic Skill Proficiency" remedial work (see "Degree Requirements" for the M.B.A.).

Applicants who fail to achieve admission to the HCA specialization but who have a total score of 950 points may be admitted to the regular M.B.A. program and take a series of courses (usually four) designated by the HCA director. Upon successful completion (a grade of "B" or better) of these courses, the student may be admitted to the HCA program, with the director's approval.

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#### FINANCIAL ASSISTANCE

Financial aid is available through the University. HCAP has a limited number of graduate assistantships available. Graduate assistantships also are available in other departments of the College of Business Administration, and in other departments throughout the University. Students may apply for an assistantship by checking the appropriate box on the graduate application and by submitting a completed assistantship application form to the College of Business Administration graduate programs advising office. Complete support is available through the United States Navy Medical Scholars' Program for qualifying individuals.

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#### **CURRICULUM**

The curriculum consists of five levels of courses: basic skill proficiency in written and oral communication and in quantitative analysis (Level I); basic business knowledge (Level II); advanced business knowledge (Level III); health care administration core concepts (Level IV), and advanced health care administration knowledge (Level V). Students also must complete at least 10 professional site visits, a shadowing assignment, and an internship.

A student with appropriate undergraduate preparation and/or GMAT scores above the 25th percentile may have several or all of the Level I and Level II courses waived. A maximum of 18 credit hours may be waived.

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#### **COURSE OF STUDY**

#### Level I: Basic Skill Proficiency

(six credit hours)

GAD 515 Communications for Managers (3-0-3)

IST 502 Information Technology (1-0-1)

OMS 500 Mathematical Models for Business (2-0-2)

## **Level II: Basic Business Knowledge**

(12 credit hours)

ACT 501 Financial Accounting (3-0-3)

FIN 501 Financial Management (3-0-3)

MLR 501 Management and Organizational Behavior (3-0-3)

MKT 501 Marketing Theory and Practice (3-0-3)

#### **Level III: Functional Business Core**

(nine credit hours)

ACT 600 Managerial Accounting (2-0-2)

MBA 600 Team Dynamics (1-0-1)

MLR 601 Human Resources Management and Labor Relations (3-0-3)

MKT 601 Marketing Management (3-0-3)

#### **Level IV: Health Care Administration Core**

(12 credit hours)

HCA 510 Administrative Uses of Epidemiology (3-0-3)

HCA 515 Medical Care Organization (3-0-3)

HCA 516 Social Environment of Health Care (3-0-3)

HCA 555 Analysis of Health Care Markets (3-0-3)

## **Level V: Advanced Health Care Administration Training**

(21 credit hours)

HCA 601 Healthcare Financial Management (3-0-3)

HCA 615 Quality of Care (3-0-3)

HCA 625 Health Care Informatics for Managers (3-0-3)

HCA 640 Health Care Law (3-0-3)

<u>HCA 650</u> Long-Term Care (3-0-3) (the long-term care option only)

HCA 660 Integrative Business Strategy for Healthcare Administrators (4-0-4)

HCA 690 Administrative Internship (five credits)

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#### LEARNING BY EXPERIENCE

Health care administration programs that are accredited by ACEHSA strongly believe that an administrative internship is an important component of graduate education. Programs in public administration accredited by the National Association of Schools of Public Affairs and Administration (NASPAA) hold the same view. In addition, even those students with considerable experience in health care administration will benefit from a well-planned and supervised internship. Indeed, many students report that the opportunity to integrate course work with experience was the high point of their graduate training in health administration.

The Administrative Internship is required of all M.B.A./HCA and M.P.A./HCA students. The internship is defined as a planned and supervised learning experience gained through first-hand observations and operational responsibilities in a health service organization. It is expected that a minimum of 360 hours will be devoted to the internship. This time may be scheduled, with prior approval of the executive-in-residence, at any time after the completion of formal academic training. Each student in the internship is supervised by the executive-in-residence and an on-site preceptor with whom he or she maintains a liaison during the internship. The internship may be implemented either on a full-time or part-time basis.

The Professional Site Visit Experience is required of all M.B.A./HCA students (but is optional for M.P.A./HCA students) and involves on-site and on-campus experiences with senior management teams from a variety of health care

entities throughout the students' tenure in the program. Two of the professional site visits are directed (mandatory). One of the directed visits is a shadowing experience, while the other is individually tailored to the student's career path. A minimum of 10 Professional Site Visits is required for graduation. One hour of academic credit will be given upon completion of the Professional Site Visits when the student registers for HCA 690 Administrative Internship. If M. P.A./HCA students elect to attend these site visits, they also receive an additional hour of credit when they register for HCA 685.

Shadowing a health provider or other health professional is a proven way to learn more about career options and to confirm the choice of a career path. Shadowing consists of at least eight hours of contact with a person and/or an organization. These experiences are designed to broaden the opportunities for students to obtain in-depth knowledge of certain health-related professions, programs, and organizations. Shadowing may take two forms: Clinical (a direct care provider) or Non-clinical (an administrator such as a chief financial officer or company vice president).

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#### **COURSES**

<u>HCA 500</u>	Tools for Health Care Managers (3-0-3)
<u>HCA 510</u>	Administrative Uses of Epidemiology (3-0-3)
<u>HCA 515</u>	Medical Care Organization (3-0-3)
<u>HCA 516</u>	Social Environment of Health Care (3-0-3)
<u>HCA 520</u>	Behavior of Health Care Organizations (3-0-3)
<u>HCA 525</u>	Information Systems in Health Care (2-0-2)
<u>HCA 555</u>	Analysis of Health Care Markets (3-0-3)
<u>HCA 601</u>	Healthcare Financial Management (3-0-3)
<u>HCA 615</u>	Quality of Care (3-0-3)
<u>HCA 625</u>	Health Care Informatics for Managers (3-0-3)
HCA 640	Health Care Law (3-0-3)
<u>HCA 645</u>	Decision Analysis (3-0-3)
HCA 650	Long-Term Care (3-0-3)
<u>HCA 660</u>	Integrative Business Strategy for Healthcare Administrators (4-0-4)
<u>HCA 661</u>	Managed Care Arrangements (3-0-3)

HCA 680 Current Issues in Health Care Seminar (3-0-3)

HCA 685
 Health Care Internship (three credits) for M.P.A./HCA students
 HCA 686
 Health Care Internship (one credit) for M.P.A./HCA students
 HCA 690
 Administrative Internship (five credits) for M.B.A./HCA students
 HCA 691
 Administrative Internship/Research Project (one credit) for M.B.A./

**HCA** students

HCA 695 Research Seminar (three credits) for M.P.A./HCA students
 HCA 696 Research Seminar Continuation (one credit) for M.P.A./HCA students

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THE HEALTH CARE ADMINISTRATION SPECIALIZATION WITHIN THE MASTER OF PUBLIC ADMINISTRATION (M.P.A. / HCA)

The M.P.A./HCA is a joint offering of the College of Urban Affairs and the College of Business Administration. Students interested in this focus must meet the admission requirements of the College of Urban Affairs that are presented in the Master of Public Administration section of this Catalog. Two options are available under this concentration: public health management and long-term care administration. Both options are explained under "Program Requirements" for the M.P.A. Students interested in the M.P.A./HCA should contact the College of Urban Affairs at (216) 687-2136 for an appointment and additional information.

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business administration:

# mba courses





# master of business administration - course list

[ACCOUNTING]
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[ECONOMICS]
[FINANCE]

[GENERAL ADMINISTRATION]
[MANAGEMENT & LABOR
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[MARKETING]
[OPERATION MGMT &
BUSINESS STATS]

The program leading to the Master of Business Administration degree includes courses from all of the departments of the James J. Nance College of Business Administration as well as courses from the Department of Economics. Questions regarding the program or the courses should be directed to the Graduate Business Programs Office. The course withdrawal deadline is 10 weeks after the first day of classes. A listing of deadlines for withdrawal from courses may be found in the Graduate Business Programs Office in Ahuja Hall 219, (216) 687-3731.

See the <u>College of Business Course Descriptions</u> section of this Catalog for details on MBA-numbered courses.

ACCOUNTING

Note: The following courses in Accounting are offered for graduate credit to students in the Master of Business Administration degree program.

students in the Master of Business Administration degree program.
structure in the figure of Eustreess Hammings after the programm
ACT 501 Financial Accounting (3-0-3) (cannot be used for elective credit)
ACT 553 Information Systems Auditing (3-0-3)
ACT 555 Internal Auditing (3-0-3)
ACT 560 International Accounting (3-0-3)
ACT 562 Tax II (3-0-3)
ACT 584 Governmental and Institutional Accounting (3-0-3)
ACT 600 Managerial Accounting (2-0-2)
ACT 611 Financial Accounting: Resources (3-0-3)
ACT 612 Financial Accounting: Equities (3-0-3)
ACT 613 Legal and Ethical Environment of Accountancy (3-0-3)
ACT 621 Federal Income Taxation (3-0-3)
ACT 622 Attest Function (3-0-3)
ACT 631 Selected Topics in Accounting (3-0-3)
ACT 632 Auditing Standards and Techniques (3-0-3)
ACT 633 Cost Accounting Theory and Analysis (3-0-3)
ACT 634 Accounting Concepts and Principles (3-0-3)
ACT 636 Federal Income Taxation of Corporations and Shareholders (3-0-3)
ACT 637 Taxation of Partnerships, Estates, and Trusts (3-0-3)
ACT 638 Tax Research and Planning (3-0-3)
ACT 639 Accounting Policy (3-0-3)
ACT 641 Estate and Gift Taxation (3-0-3)
ACT 642 Deferred Compensation (3-0-3)
ACT 643 Corporate Taxation II (3-0-3)
ACT 644 Estate Planning (3-0-3)
ACT 645 Taxation of International Transactions (3-0-3)
ACT 648 State and Local Taxation (3-0-3)
ACT 649 Tax Accounting (3-0-3)
ACT 653 Advanced Information Systems Auditing (3-0-3)

ACT 688 Accounting Systems (3-0-3)

ACT 690 Professional Accounting Internship (one to three credits)

ACT 696 Current Problems in Accounting (one to three credits)

ACT 698 Research Seminar in Accounting (3-0-3)

See the College of Business Course Descriptions section of this Catalog for details on ACT courses.

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#### COMPUTER AND INFORMATION SCIENCE

<b>Professors:</b>	Associate Professors:	<b>Assistant Professors:</b>
James N. Hanson, <i>Emeritus</i>	Timothy Arndt Alan C. Benander	Theodore Randles
Thomas S. Heines,	Barbara A. Benander	Nilmini Wickramasinghe
Emeritus Paul J. Jalics	Ben A. Blake Adam M.A. Fadlalla	
Toshinori Munakata James D. Schoeffler,	Donald G. Golden, <i>Chair</i>	
Emeritus	Chien-Hua (Mike) Lin	
Allan D. Waren, <i>Emeritus</i>	Victor M. Matos David R. McIntyre	
	Santosh K. Misra Howard Paul	
	Michael A. Pechura	
	Janche Sang	

Note: The following courses in Information Systems are offered for graduate credit to students in the Master of Business Administration degree program.

IST 501 Information and Computer Technology Concepts (2-0-2)\*

IST 502 Information Technology (1-0-1)\*

IST 601 IT for Competitive Advantage (3-0-3)

IST 608 Business Database Systems (3-0-3)

IST 609 Business Systems Analysis and Design (3-0-3)

IST 615 Decision Support and Expert Systems (3-0-3)

IST 641 Electronic Commerce (3-0-3)

For other electives, see the Master of Computer and Information Science section in this Catalog.

<sup>\*</sup>Cannot be used for elective credit.

See the College of Business Course Descriptions section of this Catalog for details on CIS and IST courses.

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#### **ECONOMICS**

Note: The following course in Economics is offered for graduate credit only to students in the Master of Business Administration degree program. For other courses in Economics, see the <u>Master of Arts in Economics</u> section.

ECN 503 Economic Concepts (3-0-3) (cannot be used for elective credit)

See the <u>ECN course descriptions</u> in the Master of Arts in Economics section of this Catalog.

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#### **FINANCE**

Professors:	Associate Professors:
1 1 01 55501 5.	ASSULIALE I LUICSSULS.

Ravi R. Kamath Chenchuramaiah T. Bathala

Alan K. Michael T. Bond

Reichert Kenneth A. Borokhovich James R. Webb John A. Domonkos, *Emeritus* 

F.C. Neil Myer

Charles T. Rini, *Emeritus* Jandhyala L. Sharma

Note: The following courses in Finance are offered for graduate credit to students in the Master of BusinessAdministration degree program.

FIN 501 Financial Management (3-0-3) (cannot be used for elective credit)

FIN 601 Financial Policies (3-0-3)

FIN 603/703 Capital Budgeting Decisions (4-0-4)

FIN 604/704 Management of Financial Institutions (4-0-4)

FIN 605/705 Financial Markets (4-0-4)

FIN 606/706 Investment Analysis (4-0-4)

FIN 607/707 Portfolio Theory and Management (4-0-4)

FIN 608/708 Risk Management (4-0-4)

FIN 610/710 Real Estate Finance (4-0-4)

FIN 612/712 Real Estate Investment (4-0-4)

FIN 615/715 Derivative Securities (4-0-4)

FIN 621/721 International Financial Management (4-0-4)

FIN 696 Current Problems in Finance (one to four credits)

See the College of Business Course Descriptions section of this Catalog for details on FIN courses.

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#### **GENERAL ADMINISTRATION**

**Professor:** Associate Professors: Term Instructor:

Debra B. Ghosh

Margaret H. Bahniuk,

Emerita

Kenneth R. Mayer

Marion S. Webb, Interim Chair of

Marketing

GAD 501 Business English (4-0-4)\*

GAD 502 Intermediate Business English (3-0-3)\*

GAD 515 Communications for Managers\*

GAD 696 Current Problems in General Administration (one to four credits)

See the College of Business Course Descriptions section of this Catalog for details on GAD courses.

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#### MANAGEMENT AND LABOR RELATIONS

<sup>\*</sup>Cannot be used for elective credit.

<b>Professors:</b>	<b>Associate Professors:</b>	<b>Assistant Professors:</b>
Charles II Draoles	Vannath I Dunagan	Caaraa Dualsinaham
Charles H. Brooks,	Kenneth J. Dunegan	George Buckingham
Emeritus	Mary Wilson Hrivnak	(visiting)
Tim R.V. Davis	Augustine Lado	Deborah E. Knapp
Stuart Klein, Emeritus	Harry J. Martin	Bryan J. Pesta (visiting)
Jan P. Muczyk,	Brenda Stevenson	Raji G. Srinivasan
Emeritus	Marshall	
Nels E. Nelson	Jeffrey C. Susbauer,	Instructor:
Lawrence R. Walker,	Interim Chair	
Emeritus		Sung Min Kim
Yoash Weiner,		
Emeritus		

Note: The following courses in Management and Labor Relations are offered for graduate credit to students in the Master of Business Administration degree program and in the M.L.R.H.R. program.

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MLR 501 Management and Organizational Behavior (3-0-3) (cannot be used
for elective credit)
MLR 504 Organizational Theory and Design (3-0-3)
MLR 511 Labor History (3-0-3)
MLR 521 Comparative Labor Systems (3-0-3)
MLR 522 Labor Law (3-0-3)
MLR 523 Labor Relations in Public Employment (3-0-3)
MLR 531 Employment Practices Law (3-0-3)
MLR 543 Entrepreneurship (3-0-3)
MLR 547 Cross-functional Management (4-0-4)
MLR 555 Trends in Employee Relations and the Quality of Working Life (3-0-
MLR 577 Managerial Skill Development (3-0-3)
MLR 587 International Management (3-0-3)
MLR 601/701 Human Resources Management and Labor Relations (3-0-3)
MLR 602/702 Advanced Wage and Employment Theory (3-0-3)
MLR 604/704 Interpersonal Relations and Group Dynamics (3-0-3)
MLR 605/705 Organizational Development (3-0-3)
MLR 606/706 Research and Development Management (3-0-3)
MLR 607/707 Total Quality Management/Continuous Quality Improvement (4-
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MLR 609/709 Individual Differences: Their Assessment and Managerial

MLR 640/740 Performance Appraisal and Compensation Systems (3-0-3) MLR 641/741 Employment Planning, Personnel Selection, and Training (3-0-

MLR 611 Team Problem-Solving Process (2-0-2) MLR 621/721 Multinational Management (3-0-3)

Implications (3-0-3)

0-4)

3)

MLR 645/745 Information Systems in Human Resource Management (4-0-4)

MLR 649/749 Small Business and the Law (3-0-3)

MLR 651/751 Collective Bargaining (3-0-3)

MLR 686/786 Current Problems in Management and Labor Relations (3-0-3)

MLR 688 Internship (one to three credits)

MLR 696/796 Alternative Dispute Resolution (3-0-3)

MLR 698 Research Project (3-0-3)

See the College of Business Course Descriptions section of this Catalog for details on MLR courses.

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#### **MARKETING**

<b>Professors:</b>	Associate
	Professors.

Andrew C. Gross

Robert F. Hartley, *Emeritus*Rajshekhar G. Javalgi
W. Benoy Joseph
William J. Lundstrom
Bob D. Cutler
Amit K. Ghosh
Rama K. Jayanti
Janet Y. Murray

Rosemary P. Ramsey S.R. Rao

Donald W. Scotton, Ivan R. Vernon

**Emeritus** 

Edward G. Thomas Thomas W. Whipple

MKT 501 Marketing Theory and Practice (3-0-3) (cannot be used for elective credit)

MKT 511 Retail Management (4-0-4)

MKT 550 Professional Selling and Sales Management (4-0-4)

MKT 552 Business-to-Business Marketing (4-0-4)

MKT 554 Internet Marketing (3-0-3)

MKT 556 Data Mining Applications in Marketing (4-0-4)

MKT 601 Marketing Management (3-0-3)

MKT 602/702 Marketing Research (4-0-4)

MKT 603/703 Buyer Behavior (4-0-4)

MKT 604/704 Strategic and Tactical Marketing (4-0-4)

MKT 605/705 Services Marketing (4-0-4)

MKT 606/706 Advertising and Promotion Management (4-0-4)

MKT 607/707 Product Management (4-0-4)

MKT 608/708 Global Marketing (4-0-4)

MKT 696 Current Problems in Marketing (one to four credits)

See the College of Business Course Descriptions section of this Catalog for details on MKT courses.

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## OPERATION MANAGEMENT AND BUSINESS STATISTICS

<b>Professor:</b>	Associate Professors:	<b>Assistant Professors:</b>
Injazz Chen Chia-Shin Chung James O. Flynn, Interim Chair Walter O. Rom	Ronald L. Coccari,  Emeritus  Stanley R. Schultz,  Emeritus  Oya Icmeli-Tukel	Kenneth Paetsch (Term) Michael D. Polomsky (Visiting)
	•	

OMS 500	Mathematical Models for Business	(2-0-2)*
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OMS 503 Statistical Methods for Business Decisions (3-0-3)\*

See the College of Business Course Descriptions section of this Catalog for

OMS 511 Operations Management (3-0-3)\*

OMS 513 Production Planning and Control (3-0-3)

OMS 515 Case Studies in Operations Management (4-0-4)

OMS 517 Just-In-Time Manufacturing (3-0-3)

OMS 519 Manufacturing Systems and Technologies (3-0-3)

OMS 531 Sampling and Experimental Design (4-0-4)

OMS 545 Quality Control and Management (4-0-4)

OMS 548 Queuing and Simulation (4-0-4)

OMS 601/701 Business Decision Methods (3-0-3)

OMS 611/711 Forecasting (3-0-3)

OMS 621/721 Service Operations Management (3-0-3)

OMS 622/722 Project Management (3-0-3)

OMS 623/723 Materials and Supply Chain Management (4-0-4)

OMS 624/724 Global Operations Management (3-0-3)

OMS 625/725 Global Operations Management Field Study (0-4-2)

OMS 633/733 Multivariate Statistical Methods (3-0-3)

OMS 640 ISO 9000 and Quality Audit (3-2-4)

OMS 645 Statistical Quality Control and Improvement (3-0-3)

OMS 696 Current Problems (one to four credits)

<sup>\*</sup>Cannot be used for elective credit.

details on OMS courses.
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business administration

education

engineering

health professions

natural sciences

social and behavioral

sciences

urban affairs

CERTIFICATE AREAS

ADDENDA

education:

# ph.d. in urban education





# courses

**EDU 715** Applied Programming and Data Analysis with Statistical Packages (four credits). Students develop expertise in the structure and programming language of three computer statistical packages and familiarity with methods of exchanging data among the three packages; either DOS-based or Macintosh-based applications; Job Control Language (JCL) necessary to make use of utilities related to each package. The advantages and drawbacks of each statistical package are emphasized to allow students to evaluate each package.

EDU 800 Advanced Research Design and Measurement (three credits).

Prerequisite: EDB 601 or EDB 701. Topics include techniques of data analysis and statistical inference used in educational research; applications of descriptive and inferential statistics for analyzing educational data and understanding published studies; methods used to analyze discrete and continuous educational data including z- and t-tests, cross-tabulations, and bivariate correlation. Attention is also given to reliability and validity issues in educational research, as well as to ethical issues in research.

EDU 801 Inferential Statistics and Hypothesis Testing (three credits).

Continuation of EDU 800. Advanced techniques of data analysis used in educational and behavioral research, including analysis of variance, simple and multiple regression, analysis of covariance, and basic principles of experimental design in educational research.

**EDU 802 Quantitative Research (three credits).** EDU 800 and EDU 801.

This course provides doctoral students with advanced study in parametric correlational statistics and multivariate statistical techniques, including: 1) multivariate analysis of variance (single and multiple sample); 2) the general linear model, including multiple regression, discriminant function analysis, factor analysis, canonical correlation, and cluster analysis; and 3) principal component analysis.

**EDU 803** The Life Cycle: Development and Learning (four credits).

Prerequisite: Previous course work in the psychology of human development and learning. Accompanies the first segment of the Research Sequence. Topics

include theoretical models of human learning; genetic, biological, and neuropsychological influences in development; cognition; language and learning; affective and moral development; the individual within the family and societal systems; bio-behavioral concomitants of aging. Though students may concentrate on an age level of their individual choice, seminar presentations of research provide a conception-to-death perspective.

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**EDU 805** Cultural Foundations of Education I: Social Perspectives (four credits). Advanced study of the contributions of history, sociology, philosophy, and anthropology to the conceptualization and resolution of issues in urban education. Emphasis is placed on the role and purposes of education in contemporary urban society; the impact of class, gender, and ethnicity on schooling are examined.

**EDU 806** Cultural Foundations of Education II: Race and Ethnicity (2-0-2). A study of the experience of minorities in urban education with particular emphasis on blacks, Hispanics, and white ethnics; policy options for achieving equal educational opportunity and pluralistic models of urban education; nature and significance of culture conflict in urban schools; patterns of minority school achievement; significance of education to economic mobility; school-community conflict and resolution in minority communities.

**EDU 807** Introduction to Qualitative Research in Education (four credits). Introduction to the theories, methodologies, and findings of qualitative research. Particular attention is given to the nature of fieldwork in various research settings: community, institutional, classroom, and life history studies. Also examined are issues in qualitative research: thick vs. thin descriptions; the politics of interpretation; ethics of fieldwork; possible applications of qualitative research findings. Focuses on specific methodologies such as participant observation, interpretive biography, and open-ended interviewing.

**EDU 808** Advanced Qualitative Research in Education (four credits). Prerequisite: EDU 807. Emphasizes training in fieldwork methods in qualitative research for community and educational settings. Also examines issues and strategies involved in gaining access, developing and maintaining rapport, designing research plans and sampling strategies, using theory, solving ethical dilemmas, coding and analysis of data, and writing up findings.

**EDU 809 9 Urban Education: Organizational Change and Development** (**four credits**). This course deals with the study of organizations as systems, foundations of the change process, and the application of theories and models of change to urban education. Ethical, political, legal, financial, leadership, and motivational considerations are explored in designing change strategies for urban organizations.

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**EDU 811** Intellectual Variability: Seminar in Learning and Development (three credits). An exploration of theoretical and research perspectives on the nature and significance of individual differences from birth to adulthood as related to instructional and service delivery systems. Human variability as manifested in biological, cognitive, socio-cultural, and emotional characteristics is analyzed. Part one of two-part course.

**EDU 812** Personal and Social Factors: Seminar in Learning and **Development (three credits)**. See description of EDU 811. Part two of two-part course.

**EDU 813 Differentiating Intervention: Learning and Development Settings (two credits).** An exploration of the theoretical and practical characteristics of intervention research. The relationship among knowledge development, knowledge utilization, intervention design, formative and summative evaluation, and dissemination is examined.

**EDU 814 Urban Educational Policy (four credits).** Formulation, justification, and implementation of educational policy. Topics include the relationship of educational policy to other areas of public policy; past, present, and proposed models of public-private cooperative programs; impact of economic, political, and legal factors on policy design; alternative strategies for planning and implementation; the role of research and evaluation in educational policy. Students design a policy proposal incorporating elements treated in the course.

EDU 816 Telecommunications for Doctoral Studies (two credits). This course provides doctoral students with telecommunications skills needed to do background exploration, conduct research, engage in online professional communication, and carry out electronic publication. Focuses on uses of the Internet appropriate to doctoral studies. A basic comfort level with computers is assumed, as is at least slight experience using e-mail and visiting the World Wide Web. Topics include advanced e-mail; participation in online discussion groups; techniques for locating information on the Internet; file retrieval (including decompression and file formats); integration of online materials with local software; ethical and legal issues; CMC and telecommunication research as it relates to the educational process; and electronic publication.

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**EDU 895 Dissertation Research (one to nine credits).** Prerequisite: Completion of first year of program and permission of program coordinator. Students must take six semester hours of EDU 895 during the second year of cohort courses including the second summer. Then students must take at least one semester hour of EDU 895 each semester under the guidance of an advisor or other doctoral faculty during the academic year until the prospectus is

approved.

### **EDU 897** 7 Individual Projects in Education (variable credit).

Prerequisite: Permission of program coordinator. An independent project in a selected area of urban education; the project must be approved and arrangements made with permission of the program coordinator and advisor. May be repeated for a maximum of eight credits. Offered every semester.

**EDU 899 Ph.D. Dissertation (credit as arranged).** Prerequisite: Approval of program coordinator. Doctoral research under direction of faculty advisor; continues until submission of acceptable dissertation. Offered every semester. This is taken after the approval of the prospectus.

#### Courses in Urban Studies

# UST 716 Systems and Processes of Policy Development (four credits). Study of methods used by policy makers and their staffs in formulating policy

instruments; the objectives policy makers seek to accomplish; alternatives for achieving objectives. Areas of emphasis include distributional and spill-over effects of policy; the political and organizational problems associated with the acceptance and implementation of policy.

**UST 800 Urban Theory (four credits).** Acquaints students with the approaches used by the social sciences in examining urban problems. Faculty from the fields of political science, public administration, economics, sociology, and planning participate jointly in presenting and discussing their diverse conceptual and research approaches to the analysis of urban problems.

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# doctor of engineering - courses

# **Doctoral Engineering Science**

**ESC 702** Applied Engineering Analysis I (4-0-4). Methods of optimization for engineering systems; classical optimization, Taylor's theorem, Lagrange Multipliers, and Kuhn-Tucker theorem; direct methods, Newton and quasi-Newton methods, penalty and Barrier methods, linear and nonlinear programming.

**ESC 704** Applied Engineering Analysis II (4-0-4). Prerequisite: Engineering Statistics. Optimization in engineering economics; application of renewal theory; inventory and Markov decision models; Bayesian decision analysis.

**ESC 706** Applied Engineering Analysis III (4-0-4). Engineering applications and solution techniques for partial differential equations; variational derivation of differential equations and boundary conditions; Hamilton's principle and Lagrange's equation; numerical methods and computer solutions for differential equations.

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# **Applied Biomedical Engineering (ABE)**

CHE 751 Biomechanical Engineering (3-0-3). Prerequisite: Standing in Engineering Doctoral program. Understanding the terms and concepts of biomechanical engineering as they relate to medical needs and patients, including topics in artificial joints, mechanics and modeling of soft tissue, properties of blood, cardiac valves, heart function and heart assist replacement, biomechanical issues in rehabilitation equipment and prosthetics, renal function, and oxygen transport.

CHE 753 Tissue Engineering (3-0-3). Prerequisite: Standing in Engineering Doctoral program. Essential concepts and technologies in cellular and molecular biology, as relevant to the design, application, and evaluation of biological constructs in tissue engineering with preliminary understanding of

commercial applications.

CHE 755 Biomaterials (3-0-3). Prerequisite: Standing in Engineering Doctoral program. An introduction to materials in medicine designed to develop an understanding of the terms and concepts that relate basic and applied biomaterials engineering research to medical devices.

CHE 757 Medical Device Design and Regulation (3-0-3). Prerequisite: Standing in Engineering Doctoral program. Comprehensive overview of issues surrounding medical device design and regulation, including characteristics, function, history, technology, and intellectual property.

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# **Technical Electives in Chemical Engineering**

**CHE 702 Surface Phase Equilibria (3-0-3).** Prerequisite: CHE 502 or equivalent. Equilibrium between surface phases and bulk phases, adsorption, two-dimensional thermodynamics.

CHE 703 Fundamentals of Adsorption (3-0-3). Prerequisites: CHE 502 and CHE 506. Physical and chemical principles of adsorption, thermodynamics of adsorption, single and multi-component equilibria, kinetics of adsorption, adsorption column dynamics, and a review of industrially important adsorption processes. An emphasis on zeolites and their applications.

CHE 704 Multiphase Reactor Design (3-0-3). Prerequisite: CHE 504 or equivalent. Advanced reaction engineering principles applied to the design and operation of multiphase reactors. Multiple reactions and heat effects in gassolid, gas-liquid, and gas-solid-liquid reacting systems. Optimization of chemical reactors.

**CHE 705** Advanced Kinetics (3-0-3). Prerequisite: CHE 504 or equivalent. Consider-ation of the fundamentals of homogeneous and heterogeneous reacting systems. Discussion of kinetic mechanisms, non-isothermal kinetics, enzyme kinetics, and solid phase reactions.

**CHE 706** Advanced Mass Transfer (3-0-3). Prerequisite: CHE 506 or equivalent. Multi-component diffusion considered in detail; experi-mental data interpreted by film and penetration theories; discussion of unsteady-state and unconventional diffusion processes, such as thermal diffusion.

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CHE 707 Advanced Heat Transfer (3-0-3). Prerequisite: CHE 506 or equivalent. Investiga-tion of theory and methods of heat transfer of interest to chemical engineers. Topics include transient conduction, thermal boundary

layer, forced convection, free convection, and radiation heat transfer.

CHE 710 Phase Diagrams and Applications (3-0-3). Prerequisite: CHE 510 or equivalent. Gibbs phase rule binary diagrams and their correlation with Gibbs free energy; influence of pressure on binary diagrams. Ternary equilibrium diagrams for condensed systems. Methods of presentation of equilibrium diagrams of four and more components.

**CHE 712 Combustion Systems (3-0-3).** Prerequisites: CHE 504, CHE 506, and CHE 582, or equivalents. Examination of systems that utilize combustion for generation of mechanical and thermal energy for specific applications. Representative systems, such as turbines and fluid bed units, are examined in detail.

CHE 714 Turbulent Flow (3-0-3). Prerequisite: CHE 506 or equivalent. Indepth study of fundamentals of turbulent flow. Phenomenological theories of turbulence. Experimental methods of measuring turbulence. Recent topics of research interest in turbulence.

CHE 716 Advanced Numerical Methods (3-0-3). Prerequisite: CHE 506 or equivalent. Modern numerical procedures in approximation theory, matrix eigenvalues, initial and boundary value problems, and partial differential equations. Skill in selecting appropriate procedures for particular problems is developed. Required projects consist of programming solutions to engineering problems.

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CHE 717 Process Optimization Methods (3-0-3). Prerequisite: CHE 716 or equivalent. An introduction to optimization theory and methods. Examination of the application to process design. Study of the formulation of the engineering optimization problem. A design optimization project is required.

CHE 718 Catalysis (3-0-3). Prerequisites: CHE 502 and CHE 504. In-depth study of solid catalysts and catalytic process analysis and design. Kinetics of elementary steps and overall reactions. Kinetics of two-step reactions on non-uniform surfaces. Structure-sensitive and structure-insensitive reactions. Parasitic phenomena.

**CHE 794 Selected Topics (3-0-3).** Prerequi-site: Standing in Engineering Doctoral program or permission of instructor. Advanced selected topics in chemical engineering. Offered on sufficient demand.

CHE 895 Doctoral Research (one to 12 credits). Prerequisite: Standing in Engineering Doctoral program or permission of instructor. Analysis of a specific problem in an area of mutual interest to the student and instructor. A formal written report is required. Up to 10 credits may be used toward the dissertation credit requirement.

**CHE 899 Dissertation (one to 12 credits).** Prerequisite: Successful completion of candidacy examination. Research under the guidance of a faculty member, culminating in the writing of a dissertation.

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## **Technical Electives in Civil Engineering**

**CVE 704 Elasticity (4-0-4).** Prerequisite: CVE 513. Elasticity topics include tensor algebra, fundamentals of stress analysis, fundamentals of deformation theory, thermo-elastic constitutive relationships, uniqueness of solution, Airy's stress function, and various solution techniques for two-dimensional problems.

CVE 709 Energy Methods in Structural Mechanics (3-0-3). Prerequisite: CVE 604 or permission of instructor. Development of the principles of virtual work, total potential energy, complementary virtual work, total complementary energy, and Reissner's principle for solid mechanics problems. Castigliano theorems, Ritz, Galerkin, and finite element methods. Applications in structural mechanics problems for bars, beams, columns, plates, and shells. Offered on sufficient demand.

**CVE 711 Finite Element Analysis I (3-0-3).** Prerequisite: CVE 511 or permission of instructor. Theory and application of finite element methods as an analysis tool for two- and three-dimensional stress analysis problems in engineering.

**CVE 712 Finite Element Analysis II (3-0-3).** Prerequisite: CVE 512. Extension of the finite element method to the solution of advanced three-dimensional stress analysis problems. Offered on sufficient demand.

CVE 713 Nonlinear Finite Element Analysis (3-0-3). Prerequisites: CVE 512 and/or permission of instructor. Isoparametric finite element discretization and incremental equations of motion. Total and updated Lagrangian formulations. Nonlinear geometry and nonlinear material problems in two- and three-dimensions. Computer solution of problems. Offered on sufficient demand.

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**CVE 714** Elastic Instability (3-0-3). Prerequisite: CVE 511. Euler buckling of bars, beam/columns, and plates using matrix methods; concepts of geometric nonlinearity, including bifurcation and limit point analysis using iterative numerical techniques; applications to load eccentricity and system imperfection.

CVE 720 Fracture Mechanics and Plasticity Theory (4-0-4). Prerequisite: CVE 604. The stress and deformation field in the region of a crack are derived

using linear elastic analysis. Topics include analyzing the change in potential energy due to crack propagation (Griffith's analysis), understanding the origin of critical fracture toughness parameters, and developing fundamental fracture criteria. In addition, the course focuses on time-dependent plastic deformation analysis. Relationships between stress and strain are constructed that agree with experimental observations beyond the yield stress. Other highlighted topics include the application of these inelastic constitutive relationships in predicting plastic deformations in simple components; Drucker's stability postulates; the principles of slip-line theory; general theorems of limit analysis and their application in structural analysis; and the J-integral and fundamentals of elastic-plastic fracture analysis.

CVE 722 Fatigue Analysis (2-0-2). Prerequisite: CVE 620. The fundamental concepts of crack growth in the presence of cyclic stress are considered. The fracture mechanics approach is adopted. Similitude concepts, common empirical and semi-empirical equations, variable amplitude loading, and rain fall analysis are discussed.

CVE 725 Viscoelasticity (2-0-2). Prerequisite: CVE 604. Modeling of continua as a viscoelastic material where stress and strain fields in deformable bodies are time and spatially dependent. Viscoelastic models include Maxwell fluids and Kelvin solids. Creep phenomena, stress relaxation, hereditary integrals, viscoelastic beams, beams on continuous supports, vibration, and wave propagation in viscoelastic materials are studied.

**CVE 765 Hydrologic Modeling (3-0-3).** Prerequisite: CVE 561. Numerical and statistical methods employed in computer models that simulate the movement of surface water through the hydrologic cycle. Emphasizes the utilization of computer programs to evaluate the hydrologic response of watersheds.

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**CVE 766** Groundwater Modeling (3-0-3). Prerequisite: CVE 564. Numerical and statistical methods employed in computer models that simulate the movement of groundwater through the hydrologic cycle. Emphasizes the utilization of computer programs to evaluate the groundwater flow system.

CVE 771 Physical and Chemical Principles of Environmental Engineering (3-0-3). Prerequisite: CVE 570. Theory and application of physical and chemical processes for water treatment and related environmental control systems. Offered spring semester.

**CVE 774 Industrial Waste Treatment (3-0-3).** Prerequisite: CVE 570. Study of sources of industrial wastewater and their treatability by physical, chemical, and biological processes; problems and solutions involved in combining municipal and industrial waste treatment; and treatment of wastewater from selected industries.

CVE 775 Environmental Engineering Laboratory (2-3-3). Prerequisites: CVE 471 and CVE 570. Laboratory evaluation and discussion of the unit operations and processes in water and waste treatment, with emphasis on the interpretation of theoretical concepts in full-scale systems. Offered on sufficient demand.

**CVE 780 Biological Waste Treatment (3-0-3).** Prerequisite: CVE 572. Biological treatment processes and systems used in water quality control; biological and engineering considerations of wastewater treatment, including theory, purpose, evaluation, and design of secondary and tertiary processes. Offered spring semester.

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**CVE 782 Air Pollution Control Engineering Design (3-0-3).** Prerequisite: CVE 581. Design of air pollutant control systems for mobile and stationary sources of pollutants. Offered on sufficient demand.

**CVE 783** Occupational Health Engineering (3-0-3). Prerequisites: CVE 476 and CVE 570. Principles and application of occupational health engineering for the control of physical and chemical hazards in the workplace. Includes ventilation design, noise control, ionizing and non-ionizing radiation controls, and ergonomics. Offered on sufficient demand.

CVE 785 Hazardous Waste Engineering Management (3-0-3). Prerequisites: CVE 671 and CVE 680. Hazardous waste risk factors, environmental audits, and pollution prevention. Design and operation of hazardous waste management facilities.

**CVE 786 Hazardous Waste Site Remedia-tion (3-0-3).** Prerequisites: CVE 671 and CVE 680. Hazardous waste risk factors, site characterization, remediation technologies, remedial alternatives analysis, and radioactive wastes. Offered on sufficient demand.

CVE 793 Special Problems in Civil Engineering (one to four credits). Detailed study of a special topic under the guidance of a faculty member. Offered on sufficient demand.

**CVE 796** Independent Study in Civil Engineering (one to four credits). Prerequisite: Chair approval. Detailed individual study on a special topic under the guidance of a faculty member. Available every semester.

**CVE 897 Doctoral Research (one to 16 credits).** Prerequisite: Standing in Engineering Doctoral Program. Up to 10 credits may be used toward the dissertation credit requirements. Available every semester.

CVE 899 Dissertation (one to 16 credits). Prerequisite: Passed candidacy

examination. A design project or a research problem under the guidance of a faculty member, culminating in the writing of a dissertation. Available every semester. Return to top

# **Technical Electives in Electrical and Computer Engineering**

**EEC 701 Graduate Seminar (1-0-1).** Prerequisite: Graduate standing. Experts from industry and academia present and discuss current issues and trends in research and the professional practice of electrical and computer engineering. Registration may be repeated for credit. Seminar credit does not count toward degree requirements. Graded S/F.

**EEC 710 Probability and Stochastic Processes (4-0-4).** General concepts of probability and random variables, including random experiments, random variables, inequalities, joint distributions, functions of random variables, expectations, and the law of large numbers are presented. Basic concepts of random processes and their properties are introduced. Markov processes, linear systems with stochastic inputs, and power spectra are presented.

**EEC 740** Advanced Control System Design (4-0-4). Prerequisites: EEC 440 and EEC 510. Systematic approach of applying modern control design methods, such as digital control, adaptive control, and heuristic methods, to practical design problems. Students learn how to deal with typical industrial problems, such as nonlinearity, control saturation, parasitic effects, chattering, etc. Useful stability analysis techniques, such as the Circle Criterion and the Popov's Criterion. Polynomial matrix interpolation and its applications in control and system identification. Design examples and assignments.

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**EEC 741** Multivariable Control (4-0-4). Prerequisites: EEC 440 or equivalent, and EEC 510. Multi-input and multi-output control problems: robustness of control systems, singular value analysis, eigenvalue and eigenvector assignment, Kalman filter, LQ and H€ design methods. Limitations on achievable performance of feedback systems.

**EEC 742** System Identification (4-0-4). Prerequisite: EEC 510. Development of dynamical system models from the basic laws of physics and identification of model parameters from system input-output measurements. Frequency and time domain models.

**EEC 743** Nonlinear Systems (4-0-4). Prerequisite: EEC 510. State-space and frequency domain analysis and design of nonlinear feedback systems. Methods include Liapunov's stability analysis, singular perturbations, and describing functions. Feedback linearization, variable structure, and sliding mode control.

**EEC 744 Optimal Control Systems (4-0-4).** Prerequisite: EEC 510. Introduction to the principles and methods of the optimal control approach; performance measures; dynamic programming; calculus of variations; Pontryagin's Principle; optimal linear regulators; minimum time and minimum fuel problems, steepest descent, and quasilinearization methods for determining optimal trajectories.

**EEC 745** Intelligent Control Systems (4-0-4). Prerequisite: EEC 510. Artificial intelligence techniques applied to control system design. Topics include fuzzy sets, artificial neural networks, methods for designing fuzzylogic controllers and neural network controllers; application of computer-aided design techniques for designing fuzzy-logic and neural-network controllers.

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**EEC 750 Signal Detection and Estimation (4-0-4).** Prerequisite: EEC 710. The classical theory of detection and estimation of signals in noise. Bayesian hypothesis testing, minimax hypothesis testing, Neyman-Pearson hypothesis testing, composite hypothesis testing, signal detection in discrete time, sequential detection. Nonparametric and robust detection, parameter estimation, Bayesian estimation, maximum likelihood estimation Kalman-Bucy filtering, linear estimation, Wiener-Kolmogorov filtering, applications to communications.

**EEC 751 Digital Communications (4-0-4).** Prerequisite: EEC 750. Basic digital communication techniques, including formatting and baseband transmission, bandpass modulation and demodulation, and synchronization. Advanced modulation techniques, such as power efficient modulation, spectrally efficient modulation, coded modulation, and spread-spectrum modulation. Introduction to communication link analysis and block codes.

**EEC 752** Error Control Coding (4-0-4). Prerequisite: EEC 751. Groups, fields, GF(2m), linear block codes, cyclic code, convolutional codes, maximum likelihood decoding of convolutional codes, Viterbi algorithm, sequential decoding of convolutional codes, continuous phase modulation codes, trellis coded modulation.

**EEC 753** Information Theory (4-0-4). Prerequisite: EEC 710 or equivalent. This course presents a coherent and unifying view of the concept of information, conveying a unique understanding as to how it can be quantified and measured. Within this context, concepts and principles of information theory as they relate to applications in communication theory, statistics, probability theory, and the theory of investment are introduced.

**EEC 754 Mobile Communications (4-0-4).** Prerequisite: EEC 751. Cellular mobile communication concept and system design fundamentals, mobile radio propagation models, large-scale path loss, small-scale fading and multipath, modulation techniques for mobile radio, equalization, diversity, channel

coding, speech coding, multiple access, wireless networking, wireless systems and standards.

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**EEC 755** Satellite Communications (4-0-4). Prerequisite: EEC 751. Satellite channel, satellite link analysis, satellite electronics, frequency division multiple access (FDMA), time division multiple access (TDMA), code division multiple access (CDMA), frequency-hopped communications, on-board processing, satellite cross links, VSAT networks, mobile satellite networks.

**EEC 770 Power Systems Operations (4-0-4).** Prerequisite: EEC 571. Steady-state control of power flow. Optimal generating unit commitment. Frequency/active-power control, voltage/reactive power control. Automation generation of interconnected power systems.

**EEC 771 Power Systems Control (4-0-4).** Prerequisite: EEC 571. Nonlinear dynamic modeling and control of interconnected power systems in a deregulated environment. Voltage collapse, transient phenomena. Power system stability enhancements, flexible FACTS devices.

**EEC 773 Power Electronics and Electric Machines (4-0-4).** Prerequisite: EEC 474 or EEC 574. Power electronics converters in combination with electric machines. Field-oriented induction machine control; stability of induction machines under sine-wave supply; voltage source inverter drives and current source inverter drives.

**EEC 780 High Performance Computer Architecture (4-0-4).** Prerequisite: EEC 581. Architecture analysis and design from a systems perspective is described in this course. Topics include memory system design, pipeline design techniques, vector computers, multiprocessor systems, and multiprocessor algorithms.

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**EEC 781 Distributed Computing Systems (4-0-4).** Prerequisite: EEC 581. Overview of distributed computing systems. Topics include networking, interprocess communication, remote procedure calling, name services, distributed time management, and file services. Some new technologies, including ATM networking, internetworks, multicast protocols, microkernel-based distributed operating systems, and distributed shared memory, are discussed.

**EEC 782 Computer Networks I (4-0-4).** Prerequisite: EEC 581. Network architectures, communication protocols; data link control, medium access control, LANS and MANS; network layer, TCP/IP.

**EEC 783** Computer Networks II (4-0-4). Prerequisite: EEC 782. Broadband networks, traffic characterization, admission and access control, switch architectures, congestion control. Emphasis on quantitative analysis and performance modeling.

**EEC 784** Parallel Processing Systems (4-0-4). Prerequisite: EEC 581. Overview of parallel system organizations and parallel algorithms. Topics include memory structures for parallel systems, interconnection networks, SIMD/MIMD processing, parallel programming languages, mapping and scheduling, parallel algorithms, and case studies.

**EEC 785** Modeling and Performance Evaluation of Computer Systems (4-0-4). Prerequisites: EEC 581 and EEC 710. Evaluation of the performance of various computer systems through measurement, analytic modeling, and simulation techniques. Topics include performance metrics, workload characterization, statistical modeling, hybrid techniques, and case studies.

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**EEC 786** Advanced Digital Design (4-0-4). Prerequisite: EEC 581. Covers advanced topics in digital systems, including verification and simulation, test vector generation, logic synthesis, behavioral synthesis, and design and development of data path and control path.

**EEC 793** Special Topics in Electrical Engineering (4-0-4). Prerequisite: Permission of instructor. Advanced selected topics in electrical engineering. Offered on sufficient demand.

**EEC 796** Independent Study in Electrical Engineering (one to four credits). Prerequisite: Chair approval. Detailed individual study on a special topic under the guidance of a faculty member. Total credits for this course are limited to eight. Graded S/F.

**EEC 895 Doctoral Research (one to 16 credits).** Up to 10 credits may be applied to the dissertation credit requirement.

**EEC 899 Doctoral Dissertation (one to 16 credits).** Prerequisite: Student must have passed candidacy examination.

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## **Technical Electives in Industrial and Manufacturing Engineering**

*NOTE:* Any course without specific prerequisite(s) requires permission of instructor.

IME 741 Manufacturing Expert Systems (3-0-3). Prerequisites: IME 530

and permission of instructor. Construction of artificial intelligence models known as expert systems (ESs). Fundamentals of the PROLOG language; applications of ESs to engineering design and manufacturing systems.

**IME 752 Robotics and Machine Vision (3-0-3).** The basic principles underlying the analysis and application of robots used in manufacturing systems are introduced and analyzed. Stand-alone and robot-integrated machine vision systems and their applications are discussed in detail.

**IME 753** Robotics and Machine Vision Laboratory (0-3-1). Hands-on experiences in programming and applying robots, robotic arms, and machine vision systems to material processing and handling problems.

**IME 754** Advanced Industrial Automation and Control (3-0-3). Design and analysis of integrated manufacturing cell control systems for material handling, processing, and automated inspection systems. Topics include PLCs, machine vision, I/O communication, and manufacturing automation protocols.

**IME 755** Systems Design and Integration Laboratory (0-3-1). Projects representing the advanced concepts developed in IME 754 are assembled and applied on automated processing and assembly cells in the industrial automation laboratory.

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# IME 762 Advanced Production and Inventory Control (3-0-3).

Prerequisites: IME 562 and permission of instructor. Emphasis on the integration of planning and control functions in a dynamic environment. Application of current philosophical, analytical, and empirical research dealing with alternative approaches for planning and control of manufacturing operations.

**IME 764** Advanced Engineering Project Control (3-0-3). Prerequisites: IME 530 and permission of instructor. The theory, concepts, techniques, and process of project control are examined. Emphasis on the scheduling of scarce resources and impact of technology on project decisions.

**IME 775** Advanced Simulation Design and Analysis (3-0-3). Prerequisites: IME 575, ESC 310, and permission of instructor. Theoretical study of queuing models and random number generators, input analysis, output analysis, model verification and validation, model animation, and a review of simulation modeling languages.

IME 796 Directed Studies (3-0-3). IME 895 Seminar (no credit).

**IME 897 Doctoral Research (one to three credits).** Up to 10 credits may be applied to the dissertation credit requirement.

**IME 899 Dissertation (three credits < maximum of 12).** Prerequisite: Student must have passed candidacy examination.

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# **Technical Electives in Mechanical Engineering**

MCE 710 Computational Fluid Flow and Heat Transfer (4-0-4). Prerequisite: MCE 509. Application of advanced numerical methods to current problems in the fluid flow and heat transfer areas; internal and external incompressible and compressible flows; numerical methods for inviscid flow

equations; multigrid procedure; computer applications.

MCE 718 Engineering Plasticity (4-0-4). Prerequisite: MCE 504. Yield criteria and application to elastic-plastic and rigid-plastic deformation; flow stress; plastic deformation processes; tribology; thermal effects; analysis by slab method, upper and lower bound on power, and finite element methods.

MCE 722 Energy Conversion (4-0-4). Prerequisite: MCE 521. Nuclear, solar, and chemical energy-conversion techniques. Thermodynamics of power cycles and systems; thermoelectric devices; thermionic generators; MHD systems; fuel cells; photovoltaic cells.

MCE 732 Gas Dynamics (4-0-4). Pre- or co-requisite: MCE 501. Generalized one-, two-, and three-dimensional compressible flows, normal shocks, oblique shocks, flow with friction and heat transfer, method of characteristics, real gas effects.

MCE 738 Viscous Flow I (4-0-4). Prerequisite: MCE 504. Derivation and exact solutions of Navier-Stokes equations governing incompressible, laminar viscous flow; applications include non-steady flow, low Reynolds numbers flows, parallel flows, and laminar boundary layer; classification of fluid behavior, rheometry, and viscoelastic and time-dependent properties.

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MCE 739 Viscous Flow II (4-0-4). Prerequisite: MCE 638. Derivation and formulation of compressible fluid flow equations in both integral and differential forms; applications include exact solutions with and without pressure gradients; introduction to turbulence and modeling of turbulent boundary layers; laminar and turbulent flows of non-Newtonian fluids; internal and external flows; boundary layer equations for momentum and energy transport.

MCE 741 Convection Heat Transfer (4-0-4). Prerequisite: MCE 638. Convective processes involving heat, momentum, and mass transfer, and their applications. Laminar and turbulent convection heat transfer; internal and

external flows.

MCE 742 Advanced Conduction Heat Transfer (4-0-4). Prerequisite: MCE 501. Heat transfer by conduction in steady, transient, and periodic states in solids for one-, two-, and three-dimensional problems; applications of various analytical and numerical methods.

MCE 743 Radiation Heat Transfer (4-0-4). Prerequisite: MCE 501. Physics of the thermal radiation process; surface properties; exchange factors and networks for heat transfer between surfaces; characteristics of emission and absorption of flames, gases, and the atmosphere; solar radiation.

MCE 744 Heat Transfer with Phase Change (4-0-4). Prerequisite: MCE 641. Heat transfer in phase change; nucleate and film-boiling mechanisms; pool and forced-convection boiling; two-phase flow, flow regimes, and transitions; application to cryogenics and nuclear reactors.

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MCE 752 Robotics and Machine Vision (4-0-4). Analysis and design of robotic systems used in manufacturing; sensing technology; machine vision; digital image processing; image analysis; robot intelligence.

MCE 754 Computer Aided Design and Optimization (4-0-4). Prerequisite: MCE 501. Optimum design problem formulation, optimum design concepts, numerical methods for unconstrained and constrained optimum designs; 3-D graphics techniques, non-traditional computing techniques such as artificial neural networks and fuzzy logic, which provide a different approach in engineering design and analysis.

MCE 755 Acoustics (4-0-4). Prerequisite: MCE 501. Elements of theoretical acoustics: plane and spherical acoustic waves; transmission and absorption of acoustic waves; theory of resonators and filters; application of theory to noise problems in mechanical and air moving equipment.

MCE 760 Lubrication (4-0-4). Prerequisite: MCE 501. Hydrodynamic lubrication, self-excited instability of hydrodynamic bearings, design optimization. Hydrostatic lubrication with design optimization. Elastohydrodynamic lubrication, calculation of Hertzian contact stresses, and deformation in rolling contact bearings.

MCE 766 Advanced Control of Mechanical Systems (4-0-4). Prerequisite: MCE 503. Design and analysis of multivariable systems using state variable techniques; introduction to system modeling, observability, controllability, stability, Z transforms, and controller design.

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MCE 770 Turbomachinery Rotordynamics (4-0-4). Prerequisite: MCE 512. Introduction to a collection of phenomena and related analysis techniques associated with the dynamics of rotating machinery, e.g., turbines, compressors, pumps, power transmission shafting, etc. Development of adequate, computationally oriented component and system models for the analysis of rotors. State-of-the-art computer codes to analyze modern rotating machinery are used during the second half of the course.

MCE 780 Finite Element Analysis II (4-0-4). Prerequisite: MCE 580. Study of two- and three-dimensional continua; application of finite element methods to mechanical engineering analysis and design problems.

MCE 793 Selected Topics in Mechanical Engineering (4-0-4). Topics of current interest to the mechanical engineering profession. Total credits in MCE 793 should not exceed eight.

MCE 796 Directed Study (one to four credits). Prerequisite: Permission of instructor. Directed study of an individual problem or subject area under the supervision of a faculty member. Total credits for this course are limited to four.

MCE 895 Seminar (no credit).

MCE 897 Doctoral Research (one, two, four, or eight credits). Prerequisite: Standing in Engineering Doctoral program. Offered every semester. Up to 10 credits may be considered toward dissertation credit

requirements.

MCE 899 Dissertation (one to 12 credits). Prerequisite: Passing Doctoral Candidacy Examination. Offered every semester.

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ADDENDA

engineering:

# chemical engineering





# chemical engineering courses

CHE 502 Advanced Thermodynamics (4-0-4). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Principles of chemical engineering thermodynamics applied to advanced problems, first and second law, property relations, equilibrium and stability, mixtures, phase and chemical equilibria, systems under stress, and surface phases. Offered every year.

CHE 504 Advanced Reactor Design (4-0-4). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Flow patterns in ideal and real reactors. Residence time distribution as a reactor design tool. Reactor design for multiple reactions, yield and selectivity concepts. Parametric sensitivity. Reactor dynamics and stability. Introduction to high-temperature non-catalytic reactions.

CHE 506 Advanced Transport Phenomena (4-0-4). Prerequisite: Graduate standing in chemical engineering or permission of instructor. The fundamental theories governing momentum transport, energy, and mass transport are studied with an aim at investigating the analogies that exist among them.

CHE 508 Advanced Separation Processes (4-0-4). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Traditional and developmental advanced separation techniques. Multicomponent distillation, multicomponent absorption/stripping, membrane separations, adsorptive separations, and hybrid systems.

CHE 510 Structure of Materials (4-0-4). Prerequisite: Graduate standing in chemical or civil engineering, or permission of instructor. Basic principles determining the atomic and crystal structures of materials. Topics include instrumental and structural analysis tech-niques, evolution of microstructures (phases/phase diagrams), processing (diffusive, solidification, mechanical working) techniques and their influence on microstructures. Cross-listed with MME 510.

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**CHE 551 Agile Manufacturing (3-0-3).** Prerequisite: Graduate standing in engineering or permission of instructor. An interdisciplinary course in agile manufacturing. Emphasis is placed on re-configurable self-directed work teams, flexible structures, adoption of advanced technology, and quality improvements.

**CHE 561 Principles of Air Pollution Control (3-0-3).** Prerequisite: Graduate standing in chemical engineering or permission of instructor. The application of engineering principles to the analysis and control of air pollution includes techniques of air sampling and analysis, atmospheric chemistry and transport, air quality standards, and methods of air pollution abatement.

CHE 566 Biochemical Engineering (3-0-3). Prerequisite: Graduate standing in chemical engineering or biology, or permission of instructor. Introduction to the fundamental concepts in biochemical engineering. Topics include enzyme kinetics, immobilized enzymes, genetic engineering, cell growth kinetics, and batch and continuous reactor design.

CHE 568 Process Modeling (3-0-3). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Review of the basic principles of transport of momen-tum, heat, and mass with applied problems. Numerical methods for solving more complex problems of transport phenomena and kinetics.

CHE 572 Principles of Adsorption and Catalysis (3-0-3). Prerequisite: Graduate standing in chemical engineering or permission of instructor. An indepth study of the chemical principles governing the adsorption of molecules onto the chemically active surfaces of catalysts and determining how this adsorptive interaction causes chemical reactions to be promoted. Emphasizes the study of catalysts in industrially significant reactions, such as in petroleum refining.

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CHE 574 Multiphase Reactors (3-0-3). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Isothermal and non-isothermal analysis of kinetic data for gas-solid catalytic and non-catalytic reacting systems. Design of packed bed, fluidized bed, and moving bed reactors.

CHE 576 Multicomponent Mass Transfer (3-0-3). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Diffusion and mass transfer as applied to stagewise and continuous opera-tions. Emphasis on multicomponent, non-isothermal, and unsteady-state operations. A considerable amount of time is devoted to computer programs.

CHE 580 Advanced Materials Processing (3-0-3). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Use of

fundamental principles in design and analysis of advanced materials processing, such as fabrication of semiconduc-tor devices, optical materials fabricated by sol-gel processes, ceramic-metal composites, and control of morphology at submicron levels. Statistical treatment and analysis of experimen-tal/plant data.

CHE 582 Introduction to Combustion Phenomena (3-0-3). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Develops a foundation in combustion phenomena, including transport and other mechanisms in homogeneous and heterogeneous combustion. Environmental implications of combustion. Elementary modeling and preliminary design calculations in industrial and modern applications of combus-tion, such as hazardous waste incineration, gas turbines, catalytic converters, and coal combustion systems. Regulatory concerns, stoichiometry, thermochemistry, incinerators, and air pollution control.

CHE 584 Principles and Applications of Rheology (3-0-3). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Rheological models for non-Newtonian fluids. Study of principles of equipment design.

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CHE 586 Fundamentals of Polymers (3-0-3). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Emphasis on polymer molecular structure and its relation to physical properties, such as molecular weight distributions, gel point, glass transition, heat capacity, and viscosity. Other topics include polymerization kinetics; condensation esterification; emulsion polymerization; and methods of analysis, such as X-ray diffraction, infrared spectroscopy, and other important basic engineering properties of polymers.

**CHE 594 Special Topics** (**3-0-3**). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Courses of current interest in chemical engineering. Offered on sufficient demand.

CHE 602 Surface Phase Equilibria (3-0-3). Prerequisite: CHE 502 or equivalent. Equilibrium between surface phases and bulk phases; adsorption; two-dimensional thermodynamics. CHE 603 Fundamentals of Adsorption

(3-0-3). Prerequisites: CHE 502 and CHE 506. Physical and chemical principles of adsorption, thermodynamics of adsorption, single and multicomponent equilibria, kinetics of adsorption, adsorption column dynamics, and a review of industrially important adsorption processes. An emphasis on zeolites and their applications.

**CHE 604 Multiphase Reactor Design (3-0-3).** Prerequisite: CHE 504 or equivalent. Advanced reaction engineering principles applied to the design and

operation of multiphase reactors. Multiple reactions and heat effects in gassolid, gas-liquid, and gas-solid-liquid reacting systems. Optimization of chemical reactors.

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**CHE 605** Advanced Kinetics (3-0-3). Prerequisite: CHE 504 or equivalent. Consider-ation of the fundamentals of homogeneous and heterogeneous reacting systems. Discussion of kinetic mechanisms, non-isothermal kinetics, enzyme kinetics, and solid phase reactions.

**CHE 606** Advanced Mass Transfer (3-0-3). Prerequisite: CHE 506 or equivalent. Multicomponent diffusion considered in detail; experi-mental data interpreted by film and penetration theories; discussion of unsteady-state and unconventional diffusional processes such as thermal diffusion.

**CHE 607 Advanced Heat Transfer (3-0-3).** Prerequisite: CHE 506 or equivalent. Investiga-tion of theory and methods of heat transfer of interest to chemical engineers. Topics include transient conduction, thermal boundary layer, forced convection, free convection, and radiative heat transfer.

CHE 612 Combustion Systems (3-0-3). Prerequisites: CHE 504, CHE 506, and CHE 582, or equivalents. Examination of systems that utilize combustion for generation of mechanical and thermal energy for specific applications. Representative systems, such as turbines and fluid bed units, are examined in detail.

**CHE 614** Turbulent Flow (3-0-3). Prerequisite: CHE 506 or equivalent. Indepth study of fundamentals of turbulent flow. Phenomenological theories of turbulence. Experimental methods of measuring turbulence. Recent topics of research interest in turbulence.

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**CHE 616** Advanced Numerical Methods (3-0-3). Prerequisite: CHE 506 or equivalent. Modern numerical procedures in approximation theory, matrix eigenvalues, initial and boundary value problems, and partial differential equations. Skill in selecting appropriate procedures for particular problems is developed. Required projects consist of programming solutions to engineering problems.

CHE 617 Process Optimization Methods (3-0-3). Prerequisite: CHE 616 or equivalent. An introduction to optimization theory and methods. Examination of the application to process design. Study of the formulation of the engineering optimization problem. A design optimization project is required.

CHE 618 Catalysis (3-0-3). Prerequisites: CHE 502 and CHE 504. In-depth

study of solid catalysts and catalytic process analysis and design. Kinetics of elementary steps and overall reactions. Kinetics of two-step reactions on non-uniform surfaces. Structure-sensitive and structure-insensitive reactions. Parasitic phenomena.

CHE 651 Biomechanical Engineering (3-0-3). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Understanding the terms and concepts of biomechanical engineering as it relates to medical needs and patients, including topics in artificial joints, mechanics and modeling of soft tissue, properties of blood, cardiac valves, heart function and heart assist replacement, biomechanical issues in rehabilitation equipment and prosthetics, renal function, and oxygen transport.

CHE 653 Tissue Engineering (3-0-3). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Essential concepts and technologies in cellular and molecular biology, as relevant to the design, application, and evaluation of biological constructs in tissue engineering, with preliminary understanding of commercial applications.

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**CHE 655 Biomaterials (3-0-3).** Prerequisite: Graduate standing in chemical engineering or permission of instructor. An introduction to materials in medicine designed to develop an understanding of the terms and concepts that relate basic and applied biomaterials engineering research to medical devices.

CHE 657 Medical Device Design and Regulation (3-0-3). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Comprehensive overview of issues surrounding medical device design and regulation, including characteristics, function, history, technology, and intellectual property.

**CHE 694 Selected Topics (3-0-3).** Prerequisite: Graduate standing in chemical engineer-ing or permission of instructor. Advanced selected topics in chemical engineering. Offered on sufficient demand.

**CHE 698** Master's Project (one to three credits). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Analysis of a specific problem in an area of mutual interest to the student and instructor. A formal written report is required.

**CHE 699** Master's Thesis (one to 12 credits). Prerequisite: Graduate standing in chemical engineering or permission of instructor. Research under the guidance of a faculty member, culminating in the writing of a thesis.

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engineering:

# civil engineering





# civil engineering courses

# CVE 500 Mathematical Methods in Engineering Mechanics (4-0-

**4).** Partial differential equations, integral equations, complex variables, integral transforms, and variational calculus as applied to the areas of elasticity, plasticity, fracture mechanics, materials science, and structural engineering.

CVE 509 Energy Methods in Structural Mechanics (3-0-3). Prerequisite: Permission of instructor. Development of the principles of virtual work, total potential energy, complementary virtual work, total complementary energy, and Reissner's principle for solid mechanics problems. Castigliano theorems, Ritz, Galerkin, and finite element methods. Applications in structural mechanics problems for bars, beams, columns, plates, and shells.

CVE 511 Matrix Methods of Structural Analysis (3-0-3). Energy methods approach to matrix structural analysis, including the development of element material stiffness, geometric stiffness, and mass matrices of basic structural elements; emphasis on the displacement method with computer program solutions of truss and frame problems.

**CVE 512 Finite Element Analysis I (3-0-3).** Prerequisite: CVE 511 or permission of instructor. Theory and application of finite element methods as an analysis tool for two- and three-dimensional stress analysis problems in engineering.

**CVE 513** Advanced Strength of Materials (4-0-4). Prerequisite: ESC 211. This course fosters an understanding of a number of advanced concepts in the field of engineering mechanics. Topics include three-dimensional stress-strain relationships, including failure theories; bending of non-symmetrical members; curved beam theory; beams on elastic foundations; torsion of non-circular shafts using the membrane analogy; and plate theory.

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# **CVE 514** Analysis and Design of Composite Materials (4-0-4).

Prerequisite: ESC 211. Behavior of unidirectional composites, rule of mixtures, short-fiber composites, analysis of orthotropic lamina, analysis of laminated

composites, design of polymer composite structures, and repair of reinforced concrete structures with composite materials.

**CVE 515 Elastic Instability (3-0-3).** Prerequisite: CVE 511. Euler buckling of bars, beam/columns, and plates using matrix methods; concepts of geometric nonlinearity including bifurcation and limit point analysis using iterative numerical techniques; applications to load eccentricity and system imperfection.

**CVE 517 Structural Vibrations (4-0-4).** Prerequisites: ESC 202 and CVE 412. Dynamic response of single and multiple degree-of-freedom and continuous structural systems to general force inputs by integration and modal methods; approximate design methods of structural systems under dynamic loading.

**CVE 521 Behavior and Properties of Concrete (3-0-3).** Prerequisite: CVE 422. Properties of hydraulic cements, aggregates, plastic, and hardened concrete; effect of admixtures and curing conditions; specifications and acceptance tests; placement, consolidation, finishing, and durability of concrete.

**CVE 523 Prestressed Concrete (3-0-3).** Prerequisite: CVE 422. Immediate and long-term stress losses in post-tensioned and pre-tensioned members; analysis and design of post-tensioned and pre-tensioned members for flexure and shear; proportioning of members, calculation of the amount, and positioning of reinforcement.

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**CVE 524 Nondestructive Evaluation (3-2-4).** Methods of nondestructive evaluation are studied. Topics include ultrasonics, acoustic emissions, penetrants, eddy current, X-ray and neutron radiography, digital radiography, computed tomography, and thermography. Cross-listed with MME 524.

CVE 525 Advanced Structural Design (3-0-3). Topics in reinforced concrete and steel design plastic design of beams and frames, composite construction, plate girder design, torsion, two-way slab design, and limit state design.

**CVE 528 Structural Wood Design (4-0-4).** Vertical dead and live loads due to gravity, roof, and floor. Lateral design loads due to wind and seismic. Properties and grades of sawn lumber and glulam members, modification factors of allowable stresses; analysis and design of axially loaded members, combined axial and bending effects. Properties and grades of plywood and other rated sheathing; analysis and design of horizontal diaphragms, chords, drag struts, and shearwalls. Design of nailed, bolted connections; timber connectors and connection hardware.

CVE 530 Advanced Soil Mechanics (3-0-3). Soil mineralogy, determination

of soil composition, clay-water electrolyte systems, soil composition, and engineering properties. Conduction phenomenon. Frozen soil engineering.

**CVE 531** Advanced Foundations (3-0-3). Subsurface explorations; shallow foundations; design of spread footings, mats, retaining walls, and deep foundations; design of piles, piers, and caissons.

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**CVE 533 Pollution Prevention and Benign Processes (3-0-3).** Prerequisite: Graduate standing in civil, environmental, chemical, or mechanical engineering, or permission of instructor. Application of engineering principles to the design of new or modified chemical and/or manufacturing processes, as alternatives to the currently used ones, that will not produce or will minimize environmental pollution.

**CVE 534** Contaminant Transport Phenomena (3-0-3). Prerequisites: Working knowledge of partial differential equations and applied numerical analysis, and graduate standing in civil, environmental, mechanical, or chemical engineering, or permission of instructor. Modeling fate and transport of pollutants in the subsurface environment. Multicomponent, multiphase transport in porous media. Analysis of fate determining mechanisms.

CVE 540 Soil Stabilization and Decontamination (3-1-4). Engineering classification of soils, clay mineralogy, properties of different types of soils, such as strength, permeability, volume-density characteristics; soil contaminant interaction, methods of soil stabilization, methods of soil decontamination, process selection, and site remediation. Soil decontamination design project.

**CVE 561 Hydrologic Analysis (3-0-3).** Characterization and analysis of the hydrologic cycle and associated hydrologic abstractions. Statistical analysis of hydrologic events, hydrologic routing, and the effects of urbanization on the hydrologic response of a watershed.

**CVE 562 Open Channel Hydraulics (3-0-3).** Application of the principles of the conservation of mass, energy, and momentum to open channel flow phenomena. Analysis of open channel hydraulic structures and floodplain hydraulics. Emphasis is on computer applications and numerical methods.

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**CVE 563 Water Resources Engineering (3-0-3).** Analysis and hydraulic design of water resource engineering subsystems, including subsurface drainage, pressure flow systems, pumps and turbines, reservoirs, spillways, and landfills.

CVE 564 Groundwater Hydrology (3-0-3). Analysis of the physical

properties and the resultant groundwater flow in porous media. Application of the principles of the conservation of mass, energy, and momentum to groundwater flow systems. Includes well hydraulics, well design, aquifer analysis, infiltration, flow in the unsaturated zone, and introduction to groundwater contamination.

**CVE 565 Hydrologic Modeling (3-0-3).** Prerequisite: CVE 561. Numerical and statistical methods employed in computer models that simulate the movement of surface water through the hydrologic cycle. Emphasizes the utilization of computer programs to evaluate the hydrologic response of watersheds.

**CVE 566** Groundwater Modeling (3-0-3). Prerequisite: CVE 564. Numerical and statistical methods employed in computer models that simulate the movement of groundwater through the hydrologic cycle. Emphasizes the utilization of computer programs to evaluate the groundwater flow system.

**CVE 570** Environmental Chemistry (3-0-3). Theoretical concepts from inorganic, organic, and physical chemistry applied to water chemistry and environmental engineering issues.

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CVE 571 Environmental Law, Regulation, and Compliance (3-0-3). The study of environmental legislation and the resultant regulations as they apply to the environmental engineering profession. Addresses federal, state, and local regulations as applied to soil, water, air, and multimedia engineering activities.

CVE 572 Biological Principles of Environmental Engineering (3-0-3). Application of the principles of biochemistry and microbiology, including microbial metabolic cycles, enzyme systems, inhibitors, and electron transport mechanisms important to the water and wastewater treatment processes.

**CVE 574 Industrial Waste Treatment (3-0-3).** Prerequisite: CVE 570. Study of sources of industrial wastewater and their treatability by physical, chemical, and biological processes; problems and solutions involved in combining municipal and industrial waste treatment and treatment of wastewater from selected industries.

**CVE 575 Solid Waste Engineering Management (3-0-3).** Generation, storage, collection, transfer, treatment, and disposal of solid waste. Addresses engineering and management issues, including waste minimization and recycling.

CVE 576 Environmental Health Engineering (3-0-3). The application of engineering principles to the analysis and control of problems in occupational and environmental health. Emphasis on problems in small water and wastewater treatment systems, industrial hygiene, air pollution, noise,

hazardous materials control, and public health.

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**CVE 578** Water Treatment Plant Design (3-0-3). Design of water treatment and distribution systems; engineering principles in design, selection of alternative process schemes, and cost estimates.

CVE 579 Wastewater Treatment Plant Design (3-0-3). Design of wastewater treatment and collection systems; engineering principles in design, selection of alternative process schemes, and cost estimates.

**CVE 581 Air Pollution (3-0-3).** Prerequisite: CVE 570. Types of air pollutants; their sources, characteristics, environmental effects, control, and environmental fate. Dispersion modeling.

**CVE 585 Hazardous Waste Site Remediation I (3-0-3).** Prerequisite: Graduate standing in civil, environmental, chemical, or mechanical engineering or permission of instructor. Traditional and developmental methods for removal or destruction of hazardous wastes at contaminated sites. Soil/groundwater remediation.

CVE 593 Special Topics in Civil Engineering (one or four credits). Topics of current interest to the civil engineering profession. Offered on sufficient demand.

**CVE 595** Environmental Seminar (1-0-1). Provides students with experience and instruction on presentation methods and oral communication of scientific information focused on interdisciplinary environmental issues. The course includes guest speakers from various environmental fields, and focuses on career opportunities as well as the skills and tools needed to succeed as an environmental professional. Students present their research plans during this course.

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**CVE 604 Elasticity (4-0-4).** Prerequisite: CVE 513. Elasticity topics include tensor algebra, fundamentals of stress analysis, fundamentals of deformation theory, thermo-elastic constitutive relationships, uniqueness of solution, Airy's stress function, and various solution techniques for two-dimensional problems.

**CVE 612 Finite Element Analysis II (3-0-3).** Prerequisite: CVE 512. Extension of the finite element method to the solution of advanced three-dimensional stress analysis problems.

**CVE 613** Nonlinear Finite Element Analysis (3-0-3). Prerequisites: CVE 512 and/or permission of instructor. Isoparametric finite element discretization,

incremental equations of motion. Total and updated Lagrangian formulations. Nonlinear geometry, nonlinear material problems in two and three dimensions. Computer solution of problems.

CVE 620 Fracture Mechanics and Plasticity Theory (4-0-4). Prerequisite: CVE 604. The stress and deformation field in the region of a crack are derived using linear elastic analysis. Topics include analyzing the change in potential energy due to crack propagation (Griffith's analysis), understanding the origin of critical fracture toughness parameters, and developing fundamental fracture criteria. In addition the course focuses on time-dependent plastic deformation analysis. Relationships between stress and strain are constructed that agree with experimental observations beyond the yield stress. Applications of these inelastic constitutive relationships in predicting plastic deformations in simple components are presented. Drucker's stability postulates are discussed, and the principles of slip-line theory are given. General theorems of limit analysis and their application in structural analysis are highlighted. The J-integral and fundamentals of elastic-plastic fracture analysis are presented.

**CVE 622 Fatigue Analysis (2-0-2).** Prerequisite: CVE 620. The fundamental concepts of crack growth in the presence of cyclic stress are considered. The fracture mechanics approach is adopted. Similitude concepts, common empirical and semi-empirical equations, variable amplitude loading, and rainfall analysis are discussed.

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CVE 625 Viscoelasticity (2-0-2). Prerequisite: CVE 604. Modeling of continua as a viscoelastic material in which stress and strain fields in deformable bodies are time and spatially dependent. Viscoelastic models include Maxwell fluids and Kelvin solids. Creep phenomena, stress relaxation, hereditary integrals, viscoelastic beams, beams on continuous supports, vibration, and wave propagation in viscoelastic materials are studied.

CVE 671 Physical and Chemical Principles of Environmental Engineering (3-0-3). Prerequisite: CVE 570. Theory and application of physical and chemical processes for water treatment and related environmental control systems.

CVE 675 Environmental Engineering Laboratory (2-3-3). Prerequisites: CVE 471 and CVE 570. Laboratory evaluation and discussion of the unit operations and processes in water and waste treatment, with emphasis on the interpretation of theoretical concepts in full-scale systems. Offered on sufficient demand.

**CVE 680 Biological Waste Treatment (3-0-3).** Prerequisite: CVE 572. Biological treatment processes and systems used in water quality control; biological and engineering considerations of wastewater treatment, including theory, purpose, evaluation, and design of secondary and tertiary processes.

**CVE 682 Air Pollution Control Engineering Design (3-0-3).** Prerequisite: CVE 581. Design of air pollutant control systems for mobile and stationary sources of pollutants.

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**CVE 683** Occupational Health Engineering (3-0-3). Prerequisites: CVE 476 and CVE 570. Principles and application of occupational health engineering for the control of physical and chemical hazards in the workplace. Includes ventilation design, noise control, ionizing and non-ionizing radiation controls, and ergonomics.

# **CVE 685** Hazardous Waste Engineering Management (3-0-3).

Prerequisites: CVE 671 and CVE 680. Hazardous waste risk factors, environmental audits, and pollution prevention. Design and operation of hazardous waste management facilities.

**CVE 686 Hazardous Waste Site Remediation II (3-0-3).** Prerequisites: CVE 671 and CVE 680. Hazardous waste risk factors, site characterization, remediation technologies, remedial alternatives analysis, and radioactive wastes. Offered on sufficient demand.

CVE 693 Special Problems in Civil Engineering (one to four credits). Detailed study of a special topic under the guidance of a faculty member.

**CVE 696** Independent Study in Civil Engineering (one to four credits). Prerequisite: Chair approval. Detailed individual study on a special topic under the guidance of a faculty member.

CVE 697 Master's Research (one to eight credits per semester).

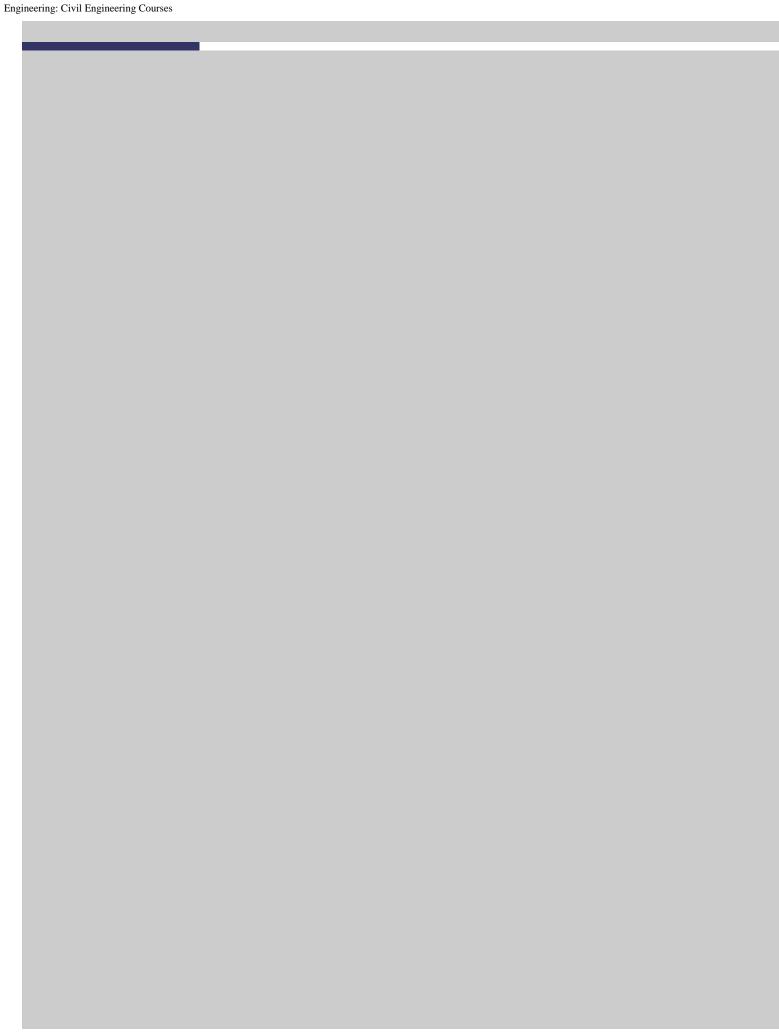
Prerequisite: Graduate standing in civil engineering. Up to eight credits may be considered toward thesis credit requirements.

**CVE 698** Master's Project (one to four credits). Exit option for students in the M.S. in Environmental Engineering program.

**CVE 699** Thesis (one to eight credits). A design project or a research problem under the guidance of a faculty member, culminating in the writing of a thesis.

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ADDENDA

engineering:

# electrical engineering





# electrical engineering - courses

**EEC 510 Linear Systems (4-0-4).** Prerequisite: Graduate standing. Fundamental concepts in linear system theory: matrix algebra, linear vector space, linear operator; linearity, causality, relaxedness, and time invariance. Input-output and state-space models. Solutions of linear dynamic equation and impulse response. Characteristics of linear systems: controllability, observability, and stability.

**EEC 517 Embedded Systems (2-4-4).** Prerequisites: Graduate standing. Software design of microcontroller-based embedded systems. Topics include microcontroller architecture; assembly programming; C programming; real-time interrupts; external interrupts; program size considerations; input/output issues; analog-to-digital conversion; serial port reception/transmission.

**EEC 522 Software Systems Modeling and Analysis (4-0-4).** Prerequisite: Graduate standing. Software system formal mechanisms, including specification, validation, and verification. Formal specification with algebraic specification and abstraction/reasoning about system properties. Evolution of formalism to model a certain system. Proof of models using analytical methods and experimental methods using simulators.

**EEC 530 Digital Signal Processing (4-0-4).** Prerequisite: Graduate standing. Modeling of DSP operations using discrete-time signals and systems: difference equations, Z-transforms, Fourier methods. Signal sampling (A/D) and reconstruction (D/A); digital filters; sample rate converters and oversampling; DFT and spectrum estimation; selected applications. Out-of-class projects completed on DSP equipment in lab.

**EEC 561** Electromagnetic Compatibility (4-0-4). Prerequisite: Graduate standing. Methods of electromagnetic coupling between devices, shielding, grounding, frequency spectra of unintentional radiation sources, radiation coupling between distant devices, absorption and reflection losses in nonmagnetic shielding, high-permeability shields, shielding penetration by wires and cables, electromagnetic compatibility (EMC) regulations and measurements.

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**EEC 571 Power Systems (4-0-4).** Prerequisite: Graduate standing. Power system components modeling: transformers, generators, transmission lines. Power flow, economic scheduling of generation, power systems faults, and transient stability.

**EEC 574 Power Electronics II** (**4-0-4**). Prerequisite: EEC 470. Advanced course in power electronics: switching function representation of converter circuits (DC-DC, AC-DC, DC-AC, and AC-AC), resonant converters, adjustable torque drives, field-oriented motor control, residential and industrial applications, utility applications, power supply applications.

**EEC 580** Modern Digital Design (4-0-4). Prerequisite: Graduate standing. Overview of modern digital design methodology and CAD tools, VHDL description for combinational and sequential logic, VHDL description for state machine, VHDL description for RTL design, synthesis and implementation using CPLD/FPGA devices. No graduate credit for students who have completed EEC 480.

**EEC 581 Computer Architecture (4-0-4).** Prerequisite: Graduate standing. The design of high-performance computer systems, with emphasis on cost-performance tradeoff, performance evaluation, instruction set design, hardwired control-unit design, micro- and nano-programming, pipelining, memory hierarchy, and I/O interfaces.

**EEC 601 Graduate Seminar (1-0-1).** Prerequisite: Graduate standing. Invited experts from industry and academia present and discuss current issues and trends in research and the professional practice of electrical and computer engineering. Registration may be repeated for credit. Credits earned by registering for this seminar do not fulfill degree requirements. Graded S/F.

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**EEC 610 Probability and Stochastic Processes (4-0-4).** Prerequisite: Graduate standing. General concepts of probability and random variables, including random experiments, inequalities, joint distributions, functions of random variables, expectations, and the law of large numbers. Basic concepts of random processes and their properties are introduced. Markov processes, linear systems with stochastic inputs, and power spectra are presented.

**EEC 640** Advanced Control System Design (4-0-4). Prerequisite: EEC 510. Systematic approach of applying modern control design methods, such as digital control, adaptive control, and heuristic methods to practical design problems. Practical approaches to typical industrial problems, such as nonlinearity, control saturation, parasitic effects, chattering, etc. Useful stability analysis techniques, such as the Circle Criterion and Popov's Criterion. Polynomial matrix interpolation and its applications in control and system

identification. Design examples and assignments.

**EEC 641** Multivariable Control (4-0-4). Prerequisite: EEC 510. Multi-input and multi-output control problems; robustness of control systems; singular value analysis; H-infinity estimation and control; controller order reduction.

**EEC 642** System Identification (4-0-4). Prerequisite: EEC 510. Development of dynamic system models from basic laws of physics and identification of model parameters from system input-output measurements. Frequency and time domain models. Design of persistently exciting input signals.

**EEC 643** Nonlinear Systems (4-0-4). Prerequisite: EEC 510. State-space and frequency domain analysis and design of nonlinear feedback systems. Methods include Liapunov's stability analysis, singular perturbations, describing functions, Popov's and circle criteria. Feedback linearization, variable structure, and sliding mode control.

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**EEC 644 Optimal Control Systems (4-0-4).** Prerequisite: EEC 510. Introduction to the principles and methods of the optimal control approach: performance measures; dynamic programming; calculus of variations; Pontryagin's Principle; optimal linear regulators; minimum time and minimum fuel problems; steepest descent; and quasilinearization methods for determining optimal trajectories.

**EEC 645** Intelligent Control Systems (4-0-4). Prerequisite: EEC 510. Artificial intelligence techniques applied to control system design. Topics include fuzzy sets, artificial neural networks, methods for designing fuzzylogic controllers and neural network controllers; application of computer-aided design techniques for designing fuzzy-logic and neural-network controllers.

**EEC 650 Signal Detection and Estimation (4-0-4).** Prerequisite: EEC 610. The classical theory of detection and estimation of signals in noise. Bayesian hypothesis testing, minimax hypothesis testing, Neyman-Pearson hypothesis testing, composite hypothesis testing, signal detection in discrete time, sequential detection. Nonparametric and robust detection parameter estimation, Bayesian estimation, maximum likelihood estimation, Kalman-Bucy filtering, linear estimation, Wiener-Kolmogorov filtering, applications to communications.

**EEC 651 Digital Communications (4-0-4).** Prerequisite: EEC 610. Basic digital communication techniques, including formatting and baseband transmission, bandpass modulation and demodulation, and synchronization. Advanced modulation techniques, such as power-efficient modulation, spectrally efficient modulation, coded modulation, and spread-spectrum

modulation. Introduction to communication link analysis and block codes.

**EEC 652 Error Control Coding (4-0-4).** Prerequisite: EEC 651. This course introduces the theory of error control coding for digital transmission in communications. Topics include groups, fields, GF(2), linear block codes, cyclic codes, BCH codes, Reed-Solomon codes, convolutional codes, maximum likelihood decoding of convolutional codes, Viterbi algorithm, sequential decoding of convolutional codes, continuous phase modulation codes, trellis coded modulation, and turbo codes.

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**EEC 653** Information Theory (4-0-4). Prerequisite: EEC 610. This course presents a coherent and unifying view of the concept of information, conveying a unique understanding of how it can be quantified and measured. Within this context, concepts and principles of information theory as they relate to applications in communication theory, statistics, probability theory, and the theory of investment are introduced.

**EEC 654 Mobile Communications (4-0-4).** Prerequisite: EEC 651. Cellular mobile communication concepts and system design fundamentals, mobile radio propagation models, large-scale path loss, small-scale fading, multipath, modulation techniques for mobile radio, equalization, diversity, channel coding, speech coding, multiple access, wireless networking, wireless systems, and standards.

**EEC 655** Satellite Communications (4-0-4). Prerequisite: EEC 651. Satellite channel, satellite link analysis, satellite electronics, frequency division multiple access (FDMA), time division multiple access (TDMA), code division multiple access (CDMA), frequency-hopped communications, on-board processing, satellite cross-links, VSAT networks, mobile satellite networks.

**EEC 673 Power Electronics and Electric Machines (4-0-4).** Prerequisite: EEC 474 or EEC 572. Power electronic converters in combination with electric machines. Field-oriented induction machine control; stability of induction machines under sine-wave supply; voltage source inverter drives and current source inverter drives.

**EEC 680 High Performance Computer Architecture (4-0-4).** Prerequisite: EEC 581. Architecture analysis and design from a systems perspective. Topics include memory system design, pipeline design techniques, vector computers, multiple processor systems, and multiprocessor algorithms.

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**EEC 681 Distributed Computing Systems (4-0-4).** Prerequisite: EEC 581. Overview of distributed computing systems. Topics include networking, interprocess communication, remote procedure calling, name services,

distributed time management, and file services. Some new technologies, including ATM networking, internetworks, multicast protocols, microkernel-based distributed operating systems, and distributed-shared memory, are discussed.

**EEC 682 Computer Networks I (4-0-4).** Prerequisite: EEC 581. Network architectures, communication protocols; data link control, medium access control, LANS and MANS; network layer, TCP/IP.

**EEC 683** Computer Networks II (4-0-4). Prerequisite: EEC 682. Broadband networks, traffic characterization, admission and access control, switch architectures, congestion control. Emphasis on quantitative analysis and performance modeling.

**EEC 684 Parallel Processing Systems (4-0-4).** Prerequisite: EEC 581. Overview of parallel system organizations and parallel algorithms. Topics include memory structures for parallel systems, interconnection networks, SIMD/MIMD processing, parallel programming languages, mapping and scheduling, parallel algorithms, and case studies.

**EEC 685** Modeling and Performance Evaluation of Computer Systems (4-0-4). Prerequisites: EEC 581 and EEC 610. Evaluation of the performance of various computer systems through measurement, analytic modeling, and simulation techniques. Topics include performance metrics, workload characterization, statistical modeling, hybrid techniques, and case studies.

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**EEC 686** Advanced Digital Design (4-0-4). Prerequisite: EEC 581. Covers advanced topics in digital systems, including verification and simulation, test vector generation, logic synthesis, behavioral synthesis, and design and development of data path and control path.

**EEC 687 Mobile Computing (4-0-4).** Prerequisite: EEC 581. This course provides a comprehensive overview of mobile computing, which is likely to become a pervasive part of future computing infrastructures with technical advancements in wireless communication, mobility, and portability. Topics include mobile TCP/IP protocols, mobile ad hoc networks, mobile application architectures, system issues for mobile devices, and some pervasive and ubiquitous computing examples.

**EEC 693 Special Topics in Electrical Engineering (4-0-4).** Prerequisite: Permission of instructor. Advanced selected topics in electrical engineering. Offered on sufficient demand.

**EEC 696** Individual Problems in Electrical Engineering (one to four credits). Prerequisite: Permission of instructor. Directed study on an individual problem under the supervision of a faculty member. Total credits for

this course are limited to eight credit hours. Graded S/F.  EEC 699 Master's Thesis (one to nine credits).  Return to top  [CATALOG SITE MAP] [SITE MAP-TEXT ONLY] [GRADUATE CATALOG HOM
EEC 699 Master's Thesis (one to nine credits).  Return to top
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engineering:

# engineering mechanics





# engineering mechanics - courses

# MME 500 Mathematical Methods in Engineering Mechanics (4-0-

**4).** Partial differential equations, integral equations, complex variables, integral transforms, and variational calculus as applied to the areas of elasticity, plasticity, fracture mechanics, materials science, and structural engineering. Cross-listed with CVE 500.

MME 504 Continuum Mechanics (3-0-3). General discussion of cartesian tensors. Application to the mechanics of linear and nonlinear continua. Unified analysis of stress and deformations in solids and fluids. Cross-listed with MCE 504.

MME 509 Energy/Variational Methods in Engineering Mechanics (3-0-3). Prerequisite: MME 604 or permission of instructor. Application of variational calculus techniques to the solution of solid mechanic problems. Cross-listed with CVE 509.

MME 510 Structure of Materials (4-0-4). Basic principles which determine the atomic and crystal structures of materials are studied. Topics include instrumental and structural analysis techniques, evolution of microstructures (phases/phase diagram), processing (diffusive, solidification, and mechanical working) techniques, and the influence of processing on microstructure. Crosslisted with CHE 510.

MME 511 Matrix Methods of Structural Analysis (3-0-3). Energy methods approach to matrix structural analysis, including the development of element material stiffness, geometric stiffness, and mass matrices of basic structural elements; emphasis on the displacement method with computer program solutions of truss and frame problems. Cross-listed with CVE 511.

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MME 512 Finite Element Analysis I (3-0-3). Prerequisite: MME 511 or MCE 504 or permission of instructor. Theory and application of finite element methods as an analysis tool for problems in engineering. Cross-listed with CVE 512 and MCE 580.

MME 513 Advanced Strength of Materials (4-0-4). Prerequisite: ESC 211. This course fosters an understanding of a number of advanced concepts in the field of engineering mechanics. Topics include three-dimensional stress-strain relationships: failure theories; bending of non-symmetrical members; curved beam theory; beams on elastic foundations torsion of non-circular shafts using the thin membrane analogy, and plate theory. Cross-listed with CVE 513.

# MME 514 Analysis and Design of Composite Materials (4-0-4).

Prerequisite: ESC 211. Behavior of unidirectional composites, rule of mixtures, short-fiber composites, analysis of orthotropic lamina, analysis of laminated composites, design of polymer composite structures, and repair of reinforced concrete structures with composite materials. Cross-listed with CVE 514.

MME 515 Elastic Instability (3-0-3). Prerequisite: MME 511. Euler buckling of bars, beam/columns, and plates using matrix methods; concepts of geometric nonlinearity, including bifurcation and limit point analysis using iterative numerical techniques; applications to load eccentricity and system imperfection. Cross-listed with CVE 515.

MME 517 Structural Vibrations (4-0-4). Prerequisites: ESC 202 and CVE 412. Dynamic response of single and multiple degree-of-freedom and continuous structural systems to general force inputs by integration and modal methods; approximate design methods of structural systems under dynamic loading. Cross-listed with CVE 517.

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MME 524 Nondestructive Evaluation (3-2-4). Methods of nondestructive evaluation are studied. Topics include ultrasonics, acoustic emissions, penetrants, eddy current, X-ray and neutron radiography, digital radiography, computed tomography, and thermography. Cross-listed with CVE 524.

MME 550 Advanced Dynamics (3-0-3). Prerequisite: Senior standing or approval of instructor. Fundamentals of analytical mechanics and Lagrangian dynamics. Study of Hamilton's and D'Alembert's principles. Behavior of autonomous and nonautonomous systems. Analytical solutions of dynamics problems by perturbation techniques. Cross-listed with MCE 550.

MME 565 Advanced Machine Analysis (4-0-4). Prerequisite: MCE 362 or MME 513. Finite Element analysis of stresses and deflections in complex mechanical systems under static and dynamic loading. Integrating modeling techniques with 2D and 3D CAD systems for inputting geometric data. Comparison of finite element results with theoretical and empirical results.

**MME 604 Elasticity (4-0-4).** Prerequisite: CVE 513. Elasticity topics include tensor algebra, fundamentals of stress analysis, fundamentals of deformation theory, thermo-elastic constitutive relationships, uniqueness of

solution, Airy's stress function, and various solution techniques for twodimensional problems. Cross-listed with CVE 604.

MME 612 Finite Element Analysis II (3-0-3). Prerequisite: MME 512. Extension of the finite element method to the solution of advanced linear and nonlinear engineering problems. Cross-listed with CVE 612 and MCE 680.

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MME 613 Nonlinear Finite Element Analysis (3-0-3). Prerequisites: MME 511 and MME 604. Isoparametric finite element discretization, incremental equations of motion. Total and updated Lagrangian formulations. Nonlinear geometry, nonlinear material problems in two and three dimensions. Computer solution of problems. Cross-listed with CVE 613.

MME 619 Advanced Plasticity with Applications (3-0-3). Prerequisite: MME 620. Solution techniques of plasticity problems that are amenable to computer solutions. Numerical treatment includes slab method, upper and lower bound on power, and finite element methods.

#### MME 620 Fracture Mechanics and Plasticity Theory (4-0-4).

Prerequisite: MME 604. The stress and deformation field in the region of a crack are derived using linear elastic analysis. Topics include analyzing the change in potential energy due to crack propagation (Griffith's analysis), understanding the origin of critical fracture toughness parameters, and developing fundamental fracture criteria. In addition the course focuses on time-dependent plastic deformation analysis. Relationships between stress and strain are constructed that agree with experimental observations beyond the yield stress. Application of these inelastic constitutive relationships in predicting plastic deformations in simple components are presented. Drucker's stability postulates are discussed, and the principles of slip-line theory are given. General theorems of limit analysis and their application in structural analysis are highlighted. The J-integral and fundamentals of elastic-plastic fracture analysis are presented. Cross-listed with CVE 620.

MME 622 Fatigue Analysis (2-0-2). Prerequisite: MME 620. The fundamental concepts of crack growth in the presence of cyclic stress are considered. The fracture mechanics approach is adopted. Similitude concepts, common empirical and semi-empirical equations, variable amplitude loading, and rain fall analysis are discussed. Cross-listed with CVE 622.

MME 625 Viscoelasticity (2-0-2). Prerequisite: MME 604. Modeling of continua as a viscoelastic material in which stress and strain fields in deformable bodies are time and spatially dependent. Viscoelastic models include Maxwell fluids and Kelvin solids. Creep phenomena, stress relaxation, hereditary integrals, viscoelastic beams, beams on continuous supports, vibration, and wave propagation in viscoelastic materials are studied. Crosslisted with CVE 625.

MME 638 Viscous Flow I (4-0-4). Prerequisite: MCE 504 or MCE 509. Derivation and exact solutions of Navier-Stokes equations governing laminar viscous flow with emphasis on incompressible fluids; applications include non-steady flow, low Reynolds numbers flows, parallel flows, and laminar boundary layers. Cross-listed with MCE 638.

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MME 650 Non-Linear Dynamics (3-0-3). Prerequisite: MCE 512 or MCE 550. Dynamic behavior of non-linear conservative and non-conservative systems. Response of non-linear systems to force and parametrically excited inputs. Approximate solutions of non-linear systems, perturbation techniques. Study of damping mechanisms as non-linear phenomena, Coulomb damping, hysteritic damping, material damping. Limit cycle and jump phenomena observed in non-linear systems.

MME 693 Special Problems in Engineering Mechanics (one to four credits). Detailed study of a special topic under the guidance of a faculty member.

MME 696 Independent Study in Engineering Mechanics (one to four credits). Prerequisite: Chair approval. Detailed individual study on a special topic under the guidance of a faculty member.

MME 697 Master's Research (one to eight credits per semester). Prerequisite: Graduate standing in engineering mechanics. Up to eight credits may be considered toward thesis credit requirements.

MME 698 Master's Project in Engineering Mechanics (one to three credits). Preparation of a paper involving design and analysis or theoretical investigation of a topic in structural mechanics/materials selected by mutual agreement between student and department. A written report and an oral presentation are required.

**MME 699** Thesis (one to eight credits). A research problem under the guidance of a faculty member, culminating with the writing of a thesis.

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arts and humanities

business administration

education

engineering

health professions

natural sciences

social and behavioral

sciences urban affairs

CERTIFICATE AREAS

ADDENDA

engineering:

## industrial engineering





#### industrial engineering courses

Undergraduate students taking 500-level courses must meet University requirements and obtain the permission of the course instructor before registering for 500-level IME courses.

**IME 505 Human Factors Engineering (3-0-3).** Study of physical capabilities and limitations of the worker in the design and analysis of occupational tasks. Topics include workplace design, work physiology, manual material handling, heat/noise stress prevention, and hand tool design.

**IME 506** Industrial Safety and Health (3-0-3). Fundamental principles and techniques of industrial safety and hygiene. Topics include federal regulations, hazard analysis, fire and explosion prevention, machine guarding, hazardous material control, industrial ventilation, survey and sampling techniques, and personal protection equipment.

#### IME 520 Applied Engineering Design (3-0-3). Prerequisites:

Undergraduate course in statistics and probability (ESC 310), graduate standing, and permission of instructor. Note: This course is not a substitute for IME 320. Statistical considerations for designing good engineering experiments; topics include application of interference theory, terminal vs. runto-failure tests, predetermined vs. sequential tests, evaluation comparison, incomplete blocks, accelerated tests, factorial experiments, covariance, analysis of variance, and regression analysis.

**IME 530** Operations Research 1 (3-0-3). Prerequisites: Undergraduate course in linear algebra, graduate standing, and permission of instructor. Note: this course is not a substitute for IME 330. Study of deterministic models in operations research, including linear programming and network formulations, the Simplex, transportation, and assignment algorithms, with applications to engineering and management problems.

**IME 540 Quality System Design (3-0-3).** Prerequisite: IME 320 or equivalent with permission of instructor. Philosophies and structures of a generic quality system are introduced. Also examines the backgrounds of various industrial quality assurance systems, such as ISO 9000, CIS 9000, and

Ford 01. A comprehensive examination of ISO 9000 is included, along with various implementation issues.

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**IME 545** Advanced Metal Cutting (3-0-3). Prerequisite: IME 250 or equivalent with permission of instructor. The physical models describing chipformation phenomenon are described, analyzed, and applied to various machining operations. Machine performance and production economics are discussed and applied to automated and conventional machining systems.

**IME 548** In-Process Sensing and Process Control (3-0-3). Study and analysis of the role of sensors and computers in manufacturing process control. Intrinsic and extrinsic properties of products and materials are explored with respect to in-line, on-line, and off-line methods of monitoring, adaptive control, and automated inspection systems.

**IME 550 Industrial Automation (3-0-3).** Broad introduction and analysis of the basic building blocks of modern automated manufacturing and quality inspection systems. Topics include sensors, actuators, machine vision, programmable logic controllers, and PC-based data acquisition and control.

**IME 551 Industrial Automation Laboratory (0-3-1).** Application of sensors and control interfaces for manufacturing systems. Design setup, implementation, data gathering, and analysis of collected data on real process control.

**IME 560** Manufacturing Systems Engineering (3-0-3). Analysis and design of automated production systems; quantitative models are introduced and applied to flow balance characteristics of synchronous and asynchronous fabricating and assembly systems.

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**IME 562 Production and Inventory Control (3-0-3).** Prerequisites: Graduate standing and permission of instructor. Note: This course is not a substitute for IME 470. Introduction to the analysis of various aspects of production planning and control. Topics include classical inventory models, MRP, DRP forecasting, production planning, scheduling, queuing, and line balancing. Emphasis is on integration of production and control activities.

**IME 570** Continuous Quality Improvement (3-0-3). Prerequisite: IME 320 or equivalent with permission of instructor. Philosophy, techniques, and methods for continuous improvement of manufacturing, business, and service processes. Shewhart cycle, team building and dynamics, quantitative and qualitative methods, Taguchi, and other quality engineering methods are covered.

**IME 575 Systems Simulation (3-0-3).** Prerequisites: Undergraduate course in statistics and probability (ESC 3 10) and permission of instructor. Introduction to simulation, including development of simulation models, random number and random variable generation, model validation and testing, analysis of model output, and an overview of simulation languages. Emphasizes the use of simulation modeling in decision making through a series of projects involving decision problems.

**IME 580 Engineering Management (3-0-3).** Studies of current methods for the effective control of projects in the private and public sectors. Includes the analysis of qualitative and quantitative factors that affect the successful completion of projects. Emphasis is on the development of project criteria, analysis of project networks, and the effects of time, financial, and organizational changes on projects.

#### IME 600 Economic Evaluation of Industrial Projects (3-0-3).

Prerequisite: Undergraduate course in engineering economics or permission of instructor. Advanced study in the time-value of money, project costing, evaluation of industrial projects, and economic decision models for investments in manufacturing and industrial projects. Topics include, but are not limited to, activity-based costing, venture capital, concepts and impact of risk, and corporate financial evaluation.

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**IME 610 Concurrent Engineering (3-0-3).** Provides an understanding of principles of the system-level design, product quality requirements, design for manufacturability and assembly. Addresses testability, reliability, and maintainability issues; explores rapid prototyping and design review techniques. Additional topics include selection of materials, manufacturing processes and functional testing, and life-cycle engineering.

**IME 623 Reliability Engineering (3-0-3).** Concepts, models, and goals of reliability engineering for engineering systems, qualitative analysis of economic specifications, performance levels, maintenance levels, and redundancy systems.

**IME 631 Operations Research II (3-0-3).** Prerequisites: IME 530 or equivalent and an undergraduate course in statistics and probability. Study of stochastic models in operations research, including stochastic processes, queuing models, probabilistic inventory models, and probabilistic decision models, with applications to engineering and management problems.

IME 641 Manufacturing Expert Systems (3-0-3). Prerequisites: IME 530 and permission of instructor. The concepts and principles on which the Artificial Intelligence (Al) models known as Expert Systems are constructed, and how they are employed in modern manufacturing. Fundamentals of the PROLOG language, and applications to engineering design and manufacturing

systems control problems.

**IME 652 Robotics and Machine Vision (3-0-3).** The basic principles underlying the analysis and application of robots used in manufacturing systems are introduced and analyzed. Stand-alone and robot-integrated machine vision systems and their applications are discussed in detail.

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**IME 653** Robotics and Machine Vision Laboratory (0-3-1). Hands-on experiences in programming and applying robots, robotic arms, and machine vision systems to material processing and handling problems.

**IME 654** Advanced Industrial Automation and Control (3-0-3). Design and analysis of integrated manufacturing cell control systems for material handling, processing, and automated inspection systems. Topics include PLCs, machine vision, I/O communication, and manufacturing automation protocols.

**IME 655** Advanced Industrial Automation and Control (0-3-1). Projects representing the advanced concepts developed in IME 664 are assembled and applied on automated processing and assembly cells in the industrial automation laboratory.

**IME 656** Nondestructive Evaluation (3-0-3). A comprehensive analysis of nondestructive testing techniques for characterization and defect evaluation. Methods covered include radiography, ultrasonics, eddy currents, microwaves, magnetic flux, and penetrant inspection, with hands-on applications in a laboratory setting.

#### IME 660 Computer Integrated Design and Manufacturing (3-0-3).

Prerequisite: IME 560 or equivalent. Introduces concepts of solid modeling of parts, computer-aided design strategies, control of manufacturing processes through computers, and integration of computer-controlled machine tools with design models, and understanding of CAD/CAM systems architectures through case studies and projects.

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IME 663 Competitive Manufacturing Management (3-0-3). Prerequisite: IME 562 or permission of instructor. A study of the management concepts and principles that will guide manufacturing into the future. Topics include approaches to waste elimination, teaming, continuous improvement, lean manufacturing, advanced production planning and control systems, supply chain management, and activity-based costing. Web-based course.

**IME 664** Engineering Project Control (3-4-3). Prerequisite: Undergraduate course in production and inventory control. Survey of methods

and techniques used to plan, implement, manage, and control projects. Topics include team building, resource allocation, control techniques, resource leveling, and analysis of alternatives. Application of techniques to small and large projects is emphasized.

IME 666 Systems Engineering, Analysis, and Management (3-0-3). Basic graduate course for introducing the concept of systems, systems engineering process, definitions, planning, design, advancement, and control of complex human-made systems and organizations (enterprises). Major topics include system engineering process, planning, system design, life cycle, reliability, maintainability, integrated logistics support, and costs issues. The course includes several examples of new enterprise systems engineering products and processes.

#### IME 678 New Product Development, Marketing, and Management. (3-0-

3). Prerequisites: IME 666 and systems engineering, analysis, and management. A study of the latest practices, processes, methodology, marketing, and management of the development, introduction, and successful product life-cycle management of new high-technology products. Topics include opportunity identification, new products development process, alternative evaluation, product test (marketing) strategies, introduction and rollout strategies, and customer support.

**IME 679** Technology Management for Engineers (3-0-3). Prerequisites: IME 666; systems engineering, analysis, and management; and engineering economics. A study of the technology management concepts, principles, and processes with engineering examples that govern the successful implementation of new technologies. Also addresses the process strategies for managing technology (S-curve) changes in today's high-technology-engineering driven world. Topics include the engineer's role in innovation and entrepreneurship, innovation and technology forecasting, product/technology life cycle, economic life cycles, S-curves, and technology change.

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#### IME 690 Special Topics in Engineering Management (three credits).

Prerequisite: Permission of instructor. These courses are offered via the Internet as part of the Ohio Engineering Management Consortium. Each course is assigned a different section number and title. Students must see the Engineering Management Consortium Coordinator in the IME Department for permission to enroll. Current courses being offered are IME 562 and IME 663.

**IME 691 Special Topics in Manufacturing Engineering (one to three credits).** Prerequisite: Permission of instructor. These courses are offered via the Internet as part of the Ohio World-Class Manufacturing Consortium. Each course is assigned a different section number and title. Students must see the Manufacturing Engineering Consortium Coordinator in the IME Department for permission to enroll.

IME 696 Directed Studies in Industrial Engineering (one to three credits). Prerequisite: Permission of instructor. A directed or independent study of an individual problem or subject under the supervision of a graduate faculty member. Students must register for this course in the IME Department for assignment of a section number. Students must furnish a title for the directed or independent study at the time of registration.

**IME 697 Master's Project (3-0-3).** Students opting for the project track in the M.S.I.E. program must enroll for two semesters to complete the degree requirements. These should be the last two semesters prior to graduation. The student must present a formal report on the project to his or her advisor and at least one additional faculty member prior to the end of the last semester.

**IME 698** Master's Thesis (3-0-3). Students opting for the thesis track in the M.S.I.E. program must enroll for two semesters to complete the degree requirements. These should be the last two semesters prior to graduation. The student must present a formal report of the project to his or her committee prior to the end of the last semester.

**IME 699** Master's Defense (1-0-1). Prerequisite: Completion of two semesters of IME 697 or IME 698. Students may only enroll in this course if they were not able to defend their project of thesis during the last semester of enrollment.

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engineering:

## mechanical engineering





#### mechanical engineering courses

MCE 501 Mechanical Engineering Analysis (4-0-4). Mathematical modeling/analysis of physical systems; boundary value problems. Fourier series and integrals; diffusion equation, Sturm-Liouville theory; Wave equation, D'Alem-bert's solution; Bessel and Legendre functions.

MCE 503 System Modeling (4-0-4). Modeling and analysis of dynamic systems with interacting energy domains: fluids, thermal, electrical, and mechanical; formulation of linear and nonlinear state equations; unified treatment of diverse systems with bond graphs.

MCE 504 Continuum Mechanics (4-0-4). General discussion of Cartesian tensors. Application to the mechanics of linear and nonlinear continua. Unified analysis of stress and deformations in solids and fluids.

#### MCE 509 Numerical Methods in Mechanical Engineering (4-0-4).

Advanced numerical methods for solving parabolic, elliptic, and hyperbolic partial differential equations; convergence and stability criteria; grid generation; special mesh systems and orthogonal coordinate systems; computer applications.

MCE 512 Advanced Vibrations I (4-0-4). Study of multi-degree-of-freedom and continuous systems; modal analysis and modal summation methods; wave equation solution for strings, rods, beams, and plates; approximate and energy method solutions; introduction to finite element solution techniques.

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MCE 521 Applied Thermodynamics (4-0-4). Availability analysis (exergy); irreversibility; combustion; applications to internal and external combustion engine, vapor power, and refrigeration cycles.

MCE 544 Applied Combustion Processes (4-0-4). Review of chemical kinetics; conservation equation for multicomponent reacting systems; premixed laminar and turbulent flames.

#### MCE 546 Principles of Turbomachinery and Applications (4-0-4).

Derivation of fluid and thermodynamic relations along with passage losses for turbo-machinery. Applications include analysis and design of axial and radial flow turbines, compressors, and pumps.

MCE 550 Advanced Dynamics (4-0-4). Lagrangian dynamics; Hamilton's and D'Alembert's principles; autonomous and nonautonomous systems; behavior of conservative and non-conservative systems; approximate solutions; perturbation methods of solution; study of damping.

MCE 565 Advanced Machine Analysis (4-0-4). Finite element analysis of stresses and deflections in complex mechanical systems under static and dynamic loading. Integrating modeling techniques with two- and three-dimensional CAD systems for inputting geometric data. Comparisons of finite element results with theoretical and empirical results.

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MCE 580 Finite Element Analysis I (4-0-4). Introduction to calculus of variations, virtual work, complementary virtual work, potential energy, complementary energy, and Castigliano theorems; approximate methods; finite element development and applications.

#### MCE 610 Computational Fluid Flow and Heat Transfer (4-0-4).

Prerequisite: MCE 509. Application of advanced numerical methods to current problems in the fluid flow and heat transfer areas; internal and external incompressible and compressible flows; numerical methods for inviscid flow equations; multigrid procedure; computer applications.

MCE 618 Engineering Plasticity (4-0-4). Prerequisite: MCE 504. Yield criteria and application to elastic-plastic and rigid-plastic deformation; flow stress; plastic deformation processes; tribology; thermal effects; analysis by slab method, upper and lower bound on power, and finite element methods.

MCE 622 Energy Conversion (4-0-4). Prerequisite: MCE 521. Nuclear, solar, and chemical energy conversion techniques. Thermodynamics of power cycles and systems; thermoelectric devices; thermionic generators; MHD systems; fuel cells; photovoltaic cells.

MCE 632 Gas Dynamics (4-0-4). Pre- or co-requisite: MCE 501. Generalized one-, two-, and three-dimensional compressible flows, normal shocks, oblique shocks, flow with friction and heat transfer, method of characteristics, real gas effects.

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MCE 638 Viscous Flow I (4-0-4). Prerequisite: MCE 504. Derivation and

exact solutions of Navier-Stokes equations governing incompressible, laminar viscous flow; applications include non-steady flow, low Reynolds numbers flows, parallel flows, and laminar boundary layer; classification of fluid behavior, rheometry, and viscoelastic and time-dependent properties.

MCE 639 Viscous Flow II (4-0-4). Prerequisite: MCE 638. Derivation and formulation of compressible fluid flow equations in both integral and differential forms; applications include exact solutions with and without pressure gradients; introduction to turbulence and modeling of turbulent boundary layers; laminar and turbulent flows of non-Newtonian fluids; internal and external flows; boundary layer equations for momentum and energy transport.

MCE 641 Convection Heat Transfer (4-0-4). Prerequisite: MCE 638. Convective processes involving heat, momentum, and mass transfer, and their applications. Laminar and turbulent convection heat transfer; internal and external flows.

MCE 642 Advanced Conduction Heat Transfer (4-0-4). Prerequisite: MCE 501. Heat transfer by conduction in steady, transient, and periodic states in solids for one-, two-, and three-dimensional problems; applications of various analytical and numerical methods.

MCE 643 Radiation Heat Transfer (4-0-4). Prerequisite: MCE 501. Physics of the thermal radiation process; surface properties; exchange factors and networks for heat transfer between surfaces; characteristics of emission and absorption of flames, gases, and the atmosphere; solar radiation.

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MCE 644 Heat Transfer with Phase Change (4-0-4). Prerequisite: MCE 641. Heat transfer in phase change; nucleate and film boiling mechanisms; pool and forced convection boiling; two-phase flow, flow regimes, and transitions; application to cryogenics and nuclear reactors.

MCE 652 Robotics and Machine Vision (4-0-4). Analysis and design of robotic systems used in manufacturing; sensing technology; machine vision; digital image processing; image analysis; robot intelligence.

#### MCE 654 Computer Aided Design and Optimization (4-0-4).

Prerequisite: MCE 501. Optimum design problem formulation, optimum design concepts, numerical methods for unconstrained and constrained optimum designs; 3-D graphics techniques, non-traditional computing techniques, such as artificial neural networks and fuzzy logic, which provide a different approach in engineering design and analysis.

MCE 655 Acoustics (4-0-4). Prerequisite: MCE 501. Elements of theoretical acoustics: plane and spherical acoustic waves; transmission and

absorption of acoustic waves; theory of resonators and filters; application of theory to noise problems in mechanical and air moving equipment.

MCE 660 Lubrication (4-0-4). Prerequisite: MCE 501. Hydrodynamic lubrication, self-excited instability of hydrodynamic bearings, design optimization. Hydrostatic lubrication with design optimization. Elastohydrodynamic lubrication, calculation of Hertzian contact stresses, and deformation in rolling contact bearings.

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MCE 666 Advanced Control of Mechanical Systems (4-0-4). Prerequisite: MCE 503. Design and analysis of multivariable systems using state variable techniques; introduction to system modeling, observability, controllability, stability, Z transforms, and controller design.

MCE 670 Turbomachinery Rotordynamics (4-0-4). Prerequisite: MCE 512. Introduces students to a collection of phenomena and related analysis techniques associated with the dynamics of rotating machinery, e.g., turbines, compressors, pumps, power transmission shafting, etc. Development of adequate, computationally oriented component and system models for the analysis of rotors is presented.

MCE 680 Finite Element Analysis II (4-0-4). Prerequisite: MCE 580. Study of two- and three-dimensional continua; application of finite element methods to mechanical engineering analysis and design problems.

MCE 691 Special Topics in Manufacturing Engineering (one to three credits). Prerequisite: Permission of instructor. Offered via the Internet as part of the Ohio World-Class Manufacturing Consortium. Each course is assigned a different section number and title. Students must see the World-Class Manufacturing Consortium Coordinator in the Mechanical Engineering Department for permission to enroll.

MCE 693 Selected Topics in Mechanical Engineering (4-0-4). Topics of current interest to the mechanical engineering profession. Total credits in MCE 693 should not exceed eight.

MCE 696 Directed Study (one to four credits). Prerequisite: Permission of instructor. Directed study of an individual problem or subject area under the supervision of a faculty member. Total credits for this course are limited to four.

MCE 698 Master's Project in Mechanical Engineering (one to five credits). Preparation of a paper involving design and analysis or theoretical investigation of a topic in mechanical engineering approved by the department. A written report is required.

MCE 699 Master's Thesis (one to six credits). Independent investigation by the student selected from an area of mechanical engineering that results in a significant contribution to the field. This may be analytical, computational, or experimental and needs the approval of the graduate advisor and the thesis committee. A bound copy of the thesis must be submitted to the department.

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# health sciences





## health sciences courses

**HSC 501 Issues in Health Sciences (3-0-3).** Explores trends in health care delivery, related public policy, and funding issues, as well as theoretical and ethical considerations in delivering care.

HSC 502 Leadership Roles in Health Sciences (3-0-3). Examines the roles of the advanced practitioner in direct service delivery, management, consultation, education, and research.

**HSC 503** Research and Analysis in Health Sciences (3-0-3). Provides an overview of qualitative and quantitative research methods, with an emphasis on program evaluation, quality assurance, and outcomes research. Also examines statistical and other methods for analyzing research and evaluating data.

HSC 504 Seminar in Health Sciences Professions (3-0-3). Integrates previous course work and explores mechanisms for pursuing independent research.

HSC 505 Culture and Health Care (3-0-3). Examines the ways in which culture affects health and health care, including perceptions of health, disease, treatments, and the values associated with these factors. The need for cultural sensitivity in health care will be stressed.

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**HSC 510** Principles of Evidence-Based Practice (3-0-3). Examines the emergence of evidence-based practice (EBP) as a trend in health sciences, and the advantages and disadvantages of this approach to intervention. Explores the process of implementing EBP in clinical settings.

**HSC 512** Evolving Technologies in Health Sciences (3-0-3). Reviews assistive technologies used in rehabilitation. Research evaluating program and equipment effectiveness, evolving technologies, program development, theoretical models, and reimbursement issues will be addressed for various categories of assistive technology.

**HSC 513 Outcomes Assessment (3-0-3).** Emphasizes integration of qualitative and quantitative research, along with discussion of research results, and their relationship to hypothesis-testing and methodology. Application of findings to contemporary problems encountered in health sciences and guidelines for subsequent research is explored in detail.

HSC 514 Occupational and Physical Therapy in the Schools (3-0-3). Examines factors influencing the efficacy of school-based occupational and physical therapy. Current literature is used to analyze issues related to evaluation and intervention within an educational context.

HSC 521 Current Issues in Clinical Education (3-0-3). The role of the clinical educator, including the design of educational experiences, supervision of students, and performance evaluation.

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HSC 522 Fundamentals of Curriculum in Health Sciences (3-0-3). Academic education of health sciences practitioners, with emphasis on curriculum design consistent with accreditation standards, designing and

implementing courses, and incorporation of clinical education and new technologies.

**HSC 523** Educational Evaluation in Health Sciences (3-0-3). Evaluation of course and curriculum using a variety of outcome measures.

**HSC 524 Functional Anatomy (3-0-3).** Integrates anatomical structure and function in relation to movement. Relationships among cellular, tissue, organ, and systemic function are utilized to explore the body's normal activities, response to injurious stimuli, and capacity for healing. Analysis of adaptive strategies.

HSC 525 Clinical Application of Current Theories of Motor Development (3-0-3). Historical and contemporary theories of motor development are explored, including a critical analysis and application of contemporary theories of motor development to evaluation and treatment in pediatric practice.

HSC 526 Functional Performance of Older Adults (3-0-3). Assessment and intervention designed to assist older adults in accomplishing daily activities, including individual, social, and environmental factors.

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**HSC 531 Principles of Management for Health Sciences (3-0-3).** Funding of health sciences, and implications for service delivery, supervision of personnel, and the design and implementation of programs; fundamentals of organizational behavior and development.

- **HSC 532** Advocacy and Environmental Change (3-0-3). Determination of factors in the social and physical environment that support or inhibit mobility and function; methods to change environments and policies that limit ability.
- **HSC 533** Program Development and Assessment (3-0-3). Evaluation of needs, design and implementation of health sciences programs, and assessment of outcomes.
- **HSC 541** Environmental Health (3-0-3). An introduction to environmental health, with emphasis on toxic exposures, hazard identification and management.
- HSC 543 Legal and Policy Issues in Health Sciences (3-0-3). Explores legal and policy issues in health care delivery, related state and federal laws, governmental and legislative trends, public policy, and ethical considerations in patient care.

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- **HSC 544** Social Issues and Health Sciences (3-0-3). Examines social issues that influence health and illness through the study of disability and medical rehabilitation. Perspectives of health care practitioner, consumer, regulator, and investor are used to investigate control issues, mutual decision-making, and socioeconomic inequalities.
- **HSC 545 Work Physiology (3-0-3).** This course in intended to provide a comprehensive examination of various factors affecting human physical performance in the workplace. Emphasis is on neural controls, cardiorespiratory capacity, and resultant musculoskeletal capabilities. Simple and sophisticated methods to assess work capacity are examined.
- **HSC 546** Occupational Biomechanics (3-0-3). This course is intended to integrate functional anatomy, biomechanics, and workplace tasks in providing a comprehensive understanding of factors that influence human occupational performance. Detailed analysis of instrumentation used to measure human mechanical capacity is provided.
- HSC 547 Assistive Technology for Computer Access (3-0-3). This course reviews assistive technology that enhances accessibility to the computer for individuals with visual, auditory, motor, or learning disabilities.
- HSC 548 Human Sexuality and Health Care (3-0-3). This course provides an overview of sexual biology and sexuality in culture and society before focusing on public health issues and specific professional concerns. Among the topics covered are sexuality education, STDs, HIV/AIDS, and sexuality and professional/patient relationships.

HSC 570 Special Topics in Health Sciences (one to four credits). May be repeated for credit with change in topic.

**HSC 690 Independent Study (3-0-3).** Prerequisite: Approval of advisor. Individual exploration in the student's area of interest under the direction of the faculty advisor.

**HSC 691** Thesis (three to six credits). Capstone option resulting in a significant, original research project.

**HSC 692** Master's Project (three to six credits). Capstone option resulting in a significant, original research project.

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CERTIFICATE AREAS

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nursing





## nursing courses

**NUR 500 Professional Role Development for Population Health Nursing I** (1-0-1). Prerequisite: Graduate standing or permission of instructor. This course focuses on giving voice to the role of a population health nurse expert beyond the parameters of current areas of advanced practice function. The emerging nursing role in population health is necessary for practice in today's health care delivery system in which social, cultural, political, and economic forces interact with complex client systems. Students are supported to construct a new paradigm for nursing practice, to articulate the role to health professionals, policy makers, community groups, and consumers.

#### **NUR 501** Introduction to Population Health Nursing (3-0-3).

Prerequisite: Graduate standing or permission of instructor. This course addresses the philosophy and framework for population health and the care of aggregates. Concepts of health, disease, health promotion, and health restoration are emphasized, along with knowledge of human and cultural diversity, factors influencing health and disease states, the ethics of care, and population as community. There is an emphasis on the need to collect explicit population data to progress systematically through the steps of health promotion and program planning process. Introduces the Precede-Proceed Model; theories, concepts and models of families; communication related to population health; epidemiology; public policy; and cost containment.

**NUR 502** Theory Development in Nursing (3-0-3). Prerequisite: Graduate standing, B.S.N., or permission of instructor. This course sets forth the expectation for using theory as a framework in graduate-level nursing practice. Nursing theories, models, and the stress framework are applied to population health.

#### NUR 503 Nursing Research Methods I (3-0-3). Prerequisite:

Undergraduate or graduate-level statistics course, graduate standing, or permission of instructor. This course focuses on critical analysis of scientific knowledge related to clinical problems. Study of the research process with emphasis on the logic and processes of inquiry, design, sampling, measurement, data collection, analysis, interpretation, and dissemination of findings. Use of information systems, standardized databases, and statistics

needed for population analysis is presented.

**NUR 505** Introduction to Epidemiology and Demography: A Nursing Perspective (3-0-3). Prerequisite: NUR 503 or permission of instructor. This course focuses on the assessment of population groups with emphasis on epidemiology and demography. Analysis of population-based data for use in practice, program planning, and consultation is emphasized. The course provides an opportunity to use epidemiologic and demographic data to plan interventions for populations.

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**NUR 598** Independent Study (variable credit). Prerequisites: Approval of the Program Director or Advisor; acceptance into the M.S.N. program. Individual exploration in the student's area of interest under the direction of a graduate faculty member.

**NUR 601 Nursing Research Methods II (3-0-3).** Prerequisite: NUR 503 or permission of instructor. The goal of this course is to promote research-based nursing practice in the care of populations. Focuses on methods of implementing research findings to solve identified clinical problems, and in developing questions appropriate for population-based research. Students gain skill in developing and evaluating evidenced-based practice guidelines for populations and in using research methods to evaluate outcomes.

**NUR 602 Health Care Policy (4-0-2).** Prerequisite: Graduate standing or permission of instructor. Models of health care policy are presented as well as principles for understanding behavior of complex health care, social organizations, community groups, and subcultures. Issues related to managed care, program planning, resource allocation, utilization and outcomes, and government and business influences on population health nursing practice are discussed. Application of ethical dimensions of health care policies to case studies and selected provider guidelines enables students to develop awareness, sensitivity, and a values framework to act ethically in policy decisions. An eight-week course.

#### **NUR 603** Health Care Financing for Nursing Practices (4-0-2).

Prerequisite: Graduate standing or permission of instructor. The course focuses on strategic thinking for planning and managing in health care settings. Economics, reimbursement, budget planning, business planning, and marketing are explored in relation to nursing services. Issues such as health care financing practices, reimbursement for nursing care, cost-accounting of nursing services, billing codes, resource allocation, managed care and insurance coverage are explored. Effects of such practices on nursing workforce/manpower issues are explored. Access to care is analyzed as a contributing factor to population health. Students develop analytical skills and examine the ethical impact of economic decisions. An eight-week course.

**NUR 604 Nursing of Populations I (4-8-4).** Prerequisite: Completion of Phase I course; co-requisite: NUR 601. This course examines physiological, pharmacological, environmental, and demographic factors that frame nursing interventions at the population level. In the laboratory component, students design and implement research-based nursing interventions, and evaluate the outcomes of these interventions on aggregates. An eight-week course.

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**NUR 605 Nursing of Populations II (4-8-4).** Prerequisites: Completion of Phase I courses and NUR 604; co-requisite: NUR 601. This course examines psychosocial, behavioral, educational, cultural, political, and ethical factors that frame nursing interventions at the population level. In the laboratory component, students design and implement research-based nursing interventions and evaluate the outcomes of these interventions on populations. An eight-week course.

NUR 606 Practicum in Population Health Care (0-8-4). Prerequisites: NUR 604 and NUR 605; co-requisites: NUR 602 and NUR 603. This course provides students with the opportunity to synthesize and apply their understanding of population health concepts and theories and nursing frameworks with a population of their choice along the continuum of care. In this culminating experience, students plan, execute, and evaluate nursing practice within the context of the practice setting(s) or among populations in communities. Within the practice situation, students enact leadership roles to expand, enhance, and optimize positive outcomes for the population. The practicum includes a clinical seminar in which students analyze patterns of health care delivery to populations, examine factors that influence decision making, and appraise the impact of inter-professional collaboration on outcomes and their own efficacy as population health nursing experts.

NUR 607 Professional Role Development for Population Health Nursing II (0-2-1). Prerequisites: NUR 604 and NUR 605; co-requisite: NUR 606. Culminating seminar that focuses on the emerging role of the population health nursing expert as it relates to nursing administration, direct practice, independent practice, consultation, public policy, community building, and nursing entrepreneurship. Graduates are prepared to provide leadership in the development, implementation, and evaluation of health care to populations, and to articulate the role to health professionals, policy makers, community groups, and consumers.

**NUR 698** Independent Study (variable credit). Prerequisites: Approval of the Program Director or Advisor; acceptance into the M.S.N. program. Individual exploration in the student's area of interest under the direction of a graduate faculty member.

**NUR 699** Thesis (one to three credits). Prerequisites: NUR 604 and NUR 605. Independent investigation by the student selected from an area of

population health that results in a significant contribution to the field. The graduate advisor and the thesis committee must approve the research proposal. The results of the study must be submitted to a refereed journal for publication. A bound copy of the thesis must be submitted to the department. This option is primarily for students who intend to pursue doctoral studies.

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health professions:

## occupational therapy





## occupational therapy courses

#### HSC 506 Medical Conditions and Occupational Function (3-0-

**3).** Discusses the etiology, incidence and prevalence, signs and symptoms, types, associated disorders, course, and prognosis, diagnosis, and management of a sample of major medical conditions. Their impact on occupational function is explored. The client-centered nature of occupational therapy is emphasized. The phenomenological perspective of occupational function is explored.

HSC 516 Occupational Therapy Foundations (4-0-4). An introductory course on the history, philosophy, core concepts, language, reasoning, basic tools, and practice arenas of occupational therapy. Articulates the nature of humans as occupational beings and the central role of occupation in the person's life. Emphasizes activity analysis as a core tool of occupational therapy. Standards of practice and the roles of the occupational therapist in a variety of service delivery models are reviewed. Defines and describes evidence-based practice. Clinical reasoning is introduced and applied through case examples.

**HSC 517** Occupational Therapy Theory and Process (3-0-3). Reviews current occupational therapy models of practice and applies them to the occupational therapy process. Evaluation, intervention planning, intervention, transition services, discontinuation of services, activity analysis, and documentation in occupational therapy are addressed.

HSC 518 Occupational Development (4-0-4). Development across the lifespan, from conception to very old age, is explored. Content focuses on the development of occupation (activities of daily living, play/leisure, and work) and body structure and function (sensorimotor, cognitive, and psychosocial) throughout a person's life.

#### HSC 527 Neuromusculoskeletal Evaluation and Intervention (3-2-4).

Examines the neuromusculoskeletal body structures and functions of a person at the knowledge, comprehension, and application levels. Introduces, applies, and analyzes theoretical frames of reference used by occupational therapists to address the evaluation and intervention of the neuromusculoskeletal areas of

function. Lays the foundation for use of this information at higher levels of all three learning domains and in a more integrated way in later courses. Emphasis on documenting efficacy of intervention.

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HSC 528 Psychosocial Evaluation and Intervention (2-2-3). Examines the psychosocial body structures and functions of a person, including group process, at the knowledge, comprehension, and application levels. Introduces, applies, and analyzes theoretical frames of reference used by occupational therapists to address evaluation and intervention of the psychosocial areas of function. Lays a foundation for use of this information at higher levels of all three learning domains and in a more integrated way in later courses.

## HSC 529 Sensory and Cognitive Evaluation and Intervention (2-2-3). Examines the sensory and cognitive integration body structures and functions

of a person at the knowledge, comprehension, and application levels.

Introduces, applies, and analyzes theoretical frames of reference used by occupational therapists to address evaluation and intervention of the sensory and cognitive integration areas of function. Lays a foundation for use of these functions at higher levels of all three learning domains and in a more integrated way in later courses. Documentation of efficacy of occupational therapy intervention is emphasized

**HSC 535** Occupation and Participation I (2-2-3). Provides a preliminary (pre-entry-level) working knowledge of the concepts and principles of occupational therapy, using simulated and actual case materials. Focuses on occupational therapy evaluation and intervention for maintaining or enhancing the participation of children and adolescents in their occupations.

HSC 536 Occupation and Participation II (3-2-4). Provides a preliminary (pre-entry-level) working knowledge of the concepts and principles of occupational therapy, using simulated and actual case materials. Focuses on occupational therapy evaluation and intervention for maintaining or enhancing the occupational performance of individuals in their early and middle adulthood. Documentation of efficacy of intervention is emphasized.

HSC 537 Occupation and Participation III (2-2-3). Provides a preliminary (pre-entry-level) working knowledge of the concepts and principles of occupational therapy, using simulated and actual case materials. Focuses on occupational therapy evaluation and intervention for maintaining or enhancing the participation of older adults in their occupations. Emphasis on documenting efficacy of intervention.

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**HSC 558** Occupational Therapy Practicum I (3-0-3). A level I fieldwork experience in a medical setting. Students exhibit pre-entry-level skills and

clinical reasoning necessary to evaluate sensorimotor, cognitive, and psychosocial factors influencing a person's occupation in work, play/leisure, and self-care; collaborate with the person, the team, and the family to develop and implement intervention strategies that promote occupational functioning; and understand and articulate occupational therapy's unique role within that setting. Provides an opportunity to gain experiential knowledge of and apply the theoretical approaches studied in the curriculum.

HSC 559 Occupational Therapy Practicum II (3-0-3). A level I fieldwork experience in a community setting. Students exhibit pre-entry-level skills and clinical reasoning necessary to evaluate sensorimotor, cognitive, and psychosocial factors influencing a person's occupation in work, play/leisure, and self-care; collaborate with the person, the team, and the family to develop and implement intervention strategies that promote occupational functioning; and understand and articulate occupational therapy's unique role within that setting. Provides an opportunity to gain experiential knowledge of and to apply the theoretical approaches studied in the curriculum.

HSC 560 Interdisciplinary Team Development (3-0-3). Introduces the occupational and physical therapy student to contemporary health issues, such as reimbursement, ethics, and outcome-based rehabilitation, that influence the health care team during provision of therapeutic services. The multiple roles of the therapist as well as the various health service delivery models are explored.

**HSC 568** Interdisciplinary Team Care (2-2-3). Students are introduced to the roles and responsibilities of a variety of health care team members. A team approach is applied to a variety of health care settings and models of service provision.

HSC 569 Occupational Environments (2-2-3). Reviews the symbiotic interaction between an individual and the environment. Effects of architectural barriers, assistive technology, legislation, interpersonal and social issues, psychological aspects of a disability, and cultural differences are studied.

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HSC 579 Occupational Therapy Administration and Management (3-0-3). Reviews entry-level management competencies needed to plan, organize, staff, coordinate, and control occupational therapy programs in a variety of systems. The roles of the occupational therapist are explored, as are the social, economic, political, and geographic contexts within which occupational therapy services are provided. Addresses regulation and credentialing, resolution of ethical issues, career development, and marketing occupational therapy.

**HSC 589** Occupational Therapy Research I (3-0-3). Prepares students to participate as researchers in the field of occupational therapy. Proposal writing, development of research questions, research designs, ethics in research,

literature review, data collection and analysis, preparation of professional presentations, and writing for publication are included. Prepares students for independent or group projects required for completion of the M.O.T. degree.

HSC 591 Occupational Therapy Research II (3-0-3). Facilitates implementation of independent or group research. Students meet with their advisors and implement a research project proposed and approved in HSC 590. Students submit a manuscript describing their study and participate in a research symposium in which they present their projects and field questions from faculty, students, and community participants.

HSC 595 Occupational Therapy Level II Fieldwork I (eight credits). The level II fieldwork courses are the capstones of the curriculum. Under the direct supervision of an Occupational Therapist Registered, the student acquires and implements the skills, roles, attitudes, and reasoning of an entry-level generalist therapist. This course is coordinated with HSC 596 Occupational Therapy Level II Fieldwork II to include a variety of ages, practice settings, and disabilities.

#### HSC 596 Occupational Therapy Level II Fieldwork II (eight credits).

The level II fieldwork courses are the capstones of the curriculum. Under the direct supervision of an Occupational Therapist Registered, the student acquires and implements the skills, roles, attitudes, and reasoning of an entry-level generalist therapist. This course is coordinated with HSC 595 Occupational Therapy Level II Fieldwork I to include a variety of ages, practice settings, and disabilities.

HSC 597 Occupational Therapy Level II Elective Fieldwork (four to eight credits). The level II fieldwork courses are the capstone courses of the curriculum. A supervised elective course. The student acquires and implements the skills, roles, attitudes, and reasoning of an entry-level therapist in a specialized area.

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health professions:

# physical therapy





## physical therapy courses

**HSC 538** Life Span Development (4-0-4). Focuses on the physical, psychological, and sociological development of the individual, as they relate to health, from conception through older adulthood.

HSC 542 Functional Anatomy for Physical Therapists (1-4-3). Assists the physical therapy student in developing a logical approach to understanding human form and function; the fundamentals of movement through the application of biomechanic and physiologic principles.

HSC 550 Physical Therapy Theory and Practice I (1-4-3). Basic examination procedures used to develop a physical therapy diagnosis/prognosis with emphasis on muscle testing, goniometry, and special testing.

HSC 552 Physical Therapy Theory and Practice II (1-4-3). A fundamentals-of-treatment course that introduces the student to the basic principles of therapeutic exercise.

**HSC 554** Physical Therapy Theory and Practice III (1-4-3). A fundamentals-of-evaluation-and-treatment course that introduces the physical therapy student to physical agents, mechanical, and electrical modalities.

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HSC 556 Physical Therapy Theory and Practice IV (1-4-3). Introduces the physical therapy student to more complex forms of evaluation and therapeutic exercise management. The theoretical paradigms for evaluation and treatment of patients with neurologically based motor control problems are presented.

**HSC 560** Interdisciplinary Team Development (3-0-3). Introduces the occupational and physical therapy student to contemporary health issues, such as reimbursement, ethics, and outcome-based rehabilitation, that influence the health care team during provision of therapeutic services. The multiple roles of the therapist as well as the various health service delivery models are explored.

HSC 562 Physical Therapy Interactions I (2-0-2). Introduces the student to contemporary health issues that influence the practice of physical therapy. Focus is on the development of communication and interaction skills with the individual and families.

**HSC 564** Physical Therapy Interactions II (1-2-2). Provides learning experiences for developing written skills in all aspects of documentation, emphasizing the completion of comprehensive physical therapy notes.

**HSC 566 Physical Therapy Interactions III (1-2-2).** Provides the student with the opportunity to explore the role of the physical therapist as teacher-communicator, specifically the role related to therapeutic teaching of individuals/families and the role related to collegial teaching of physical therapy peers, other health professionals, and members of the community.

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**HSC 568** Interdisciplinary Team Care (2-2-3). Students are introduced to the roles and responsibilities of a variety of health care team members. A team approach is applied to a variety of health care settings and models of service provision.

HSC 572 Physical Therapy Management of Complex Conditions I (3-4-5). The course synthesizes aspects of physical therapy related directly to patient care using the Nagi Model of Health Status. The first of the three-course series concentrates on multisystem pathology, which may occur following general medical or surgical conditions, with emphasis on the cardiopulmonary system.

HSC 574 Physical Therapy Management of Complex Conditions II (3-4-5). The second of a three-course sequence which synthesizes aspects of physical therapy related directly to patient care using the Nagi Model of Health Status. Concentrates on multisystem pathology, which may occur following an insult, disabling injury, or illness to the musculoskeletal system.

**HSC 576** Physical Therapy Management of Complex Conditions III (3-4-5). The third of a three-course sequence which synthesizes aspects of physical therapy related directly to patient care using the Nagi Model of Health Status. Concentrates on multisystem pathology, which may occur with neurologic conditions.

HSC 580 Physical Therapy Clinical Seminar I (0-2-1). The first of a three-course series designed to help students integrate academic material presented during the concomitant term in which the seminar is scheduled. Students are required to participate in community-based service-learning activities, as well as selected clinical experiences that are designed to complement and reinforce the academic course work.

HSC 582 Physical Therapy Clinical Seminar II (0-2-1). The second in the three-course series described for HSC 580.

HSC 584 Physical Therapy Clinical Seminar III (0-2-1). The third in the three-course series described for HSC 580.

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**HSC 586** Applied Physical Therapy I (12 credits). The first full-time clinical course divided into two eight-week placements during which students complete one undesignated rotation, plus one of the three required designated placement types: acute, outpatient, or chronic care.

HSC 588 Applied Physical Therapy IIãCapstone Clinical Education Experience (12 credits). The second and final formal clinical education course divided into two eight-week placements during which students complete two of the three required designated rotation types.

**HSC 590 Physical Therapy Organization, Administration, and Management (3-0-3).** Introduces the physical therapy student to the management, organization, and practice functions of the American health care delivery system as they relate to the practice of physical therapy. The role of the physical therapist in health care is examined in relationship to socioeconomic, political, ethical, and cultural factors.

**HSC 592 Physical Therapy Scientific Inquiry (3-0-3).** Introduces the physical therapy student to the process of scientific inquiry emphasizing analysis of research design. Also relates the use of probability and statistics to measures assessing quality assurance.

HSC 598 Special Topics in Physical Therapy ResearchãMaster's Capstone Project (1-0-1). Students use scientific inquiry to develop an original or replicated research project that integrates the individual's didactic and clinical course work. The focus of the project may be either applied or theoretically oriented research.

#### **Elective Course Requirements**

In addition to the M.P.T. courses outlined, students are required to take two graduate courses external to the M.P.T. curriculum during the professional program.

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health professions:

# speech pathology





#### speech pathology and audiology courses

**SPH 510 Fundamentals of Research and Design (3-0-3).** Application of basic principles of research to speech-language pathology and audiology; basic statistical measures; assessment of differences and relationships; fundamentals of experimental design; evaluation of applied and clinical research studies.

**SPH 522 Diagnostic Methods (3-0-3).** Prerequisite: SPH 335 or equivalent. Principles and practices in the diagnosis of speech and language problems in adults. Decision making involved in selection, administration, and interpretation of formal and informal measures of speech and language.

**SPH 524 Motor Disorders/Dysphagia (3-0-3).** Prerequisite: Introductory course in speech-language pathology. The nature, characteristics, assessment, and clinical management of dysarthria, apraxia, and dysphagia in children and adults.

**SPH 525 Augmentative Communication (2-0-2).** Prerequisite: Introductory course in speech-language pathology. Augmentative/alternative communication for individuals who are unable to communicate verbally.

**SPH 526** Medical Speech-Language Pathology (2-0-2). An overview of the practice of speech-language pathology and audiology in medical settings. Examination of clinical, administrative, and professional issues pertinent to work in the medical community.

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#### SPH 529 Speech and Language of the Hearing Impaired (2-0-2).

Prerequisites: Course work in aural rehabilitation, speech and hearing science, and audiometry. Speech and language development and characteristic patterns of phonology and voice in hearing-impaired children; effects of hearing loss on reading and academic achievement; communication systems/techniques; therapeutic use of amplification, language, articulation, and auditory training; teaching of speechreading; specific therapeutic and diagnostic techniques and materials.

**SPH 530 Speech and Language Development (3-0-3).** Phonological, grammatical, semantic, and pragmatic development in normal language acquisition.

**SPH 532 Voice and Resonance Disorders (4-0-4).** Prerequisite: Introductory course in speech pathology. Coverage of voice physiology, organic and functional voice disorders, and resonance problems (nasality).

**SPH 533** Neurogenic Communication Disorders (4-0-4). Prerequisites: Introductory course in speech-language pathology and a course in behavioral neurology. Characteristics, causes, assessment, and clinical management of language problems associated with central nervous system damage. Offered every year.

**SPH 537 Fluency Disorders (3-0-3).** Prerequisite: Introductory course in speech-language pathology. Characteristics, causes, assessment, and clinical management of stuttering and related prosodic speech variations. Offered every year.

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**SPH 539** Advanced Practicum in Speech-Language Pathology (one to three credits). Prerequisite: SPH 335. Supervised experience in the assessment and management of speech-language disorders. A minimum of three clock hours weekly is required for each hour of academic credit. Maximum of six credits allowable for certification. Offered every semester.

#### SPH 541 Speech and Language Problems of MR/DD (3-0-3).

Prerequisites: Introductory course in speech-language pathology and a language development course. Etilogical, diagnostic, and habilitative considerations in the assessment and clinical management of speech and language problems in individuals with mental retardation/developmental disabilities.

**SPH 543 Seminar in Aphasia (3-0-3).** Prerequisite: SPH 533. Advanced study of the research and clinical literature in aphasia.

**SPH 561 Phonological and Articulatory Disorders (3-0-3).** Prerequisites: Introductory course in speech-language pathology and a phonetics development course. Characteristics, development, assessment, and clinical management of articulation and phonological problems.

**SPH 562** Advanced Language Disorders (4-0-4). Prerequisites: Introductory course in speech-language pathology and a course in phonetics. The nature, characteristics, assessment, and clinical management of language disorders in infants, preschoolers, school-aged children, and adolescents.

SPH 564 Behavioral Neurology for Communication Disorders (3-0-3).

An introduction to the field of behavioral neurology, including the basics of neurophysiology and functional neuroanatomy. Descriptions of the major neurological disorders that affect the motor and cognitive processes that are the foundations of human communication.

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**SPH 586** Advanced Practicum in Audiology (1-2-1). Prerequisite: SPH 482 or equivalent. Supervised experience in the assessment and management of various hearing disorders. A minimum of three clock hours weekly is required for each hour of academic credit.

#### SPH 589 Advanced Practicum in Aural Rehabilitation (1-2-1).

Prerequisite: Course in aural rehabilitation and clinical methods. Supervised experience in the evaluation and treatment of communication disorders related to hearing loss. A minimum of three clock hours weekly is required for each hour of academic credit.

**SPH 591** Comprehensive Examination (three credits). Prerequisites: Successful completion of at least three semesters of full-time graduate study (24 credit hours) and a minimum 3.00 GPA. Students preparing for the comprehensive examination must submit a formal written request to their advisor at least two weeks before the end of the semester preceding the semester in which they intend to write the comprehensive examination.

**SPH 592** Seminar in Language Development/Impairment (3-0-3). Advanced study of theory and research dealing with language and cognitive development and behavior.

**SPH 594 Seminar in Speech-Language Pathology (one to three credits).** An examination of current developments in areas within speech-language pathology.

**SPH 596 Directed Study (one to three credits).** Individual study between a student and staff member in an area of mutual interest.

**SPH 599** Thesis (one to three credits). Prerequisite: Approved thesis proposal. Students preparing for thesis normally must submit a proposal to an advisor for suggestions and discussion by the beginning of their second semester of graduate study.

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# biology





### biology courses

Courses numbered 500-699 are intended for students seeking the M.S. degree. Courses numbered 700-899 are intended for students seeking the Ph.D. degree. For joint courses, students enrolled at the 700/800 level are expected to make more substantial contributions in papers, presentations, projects, etc., and are graded more stringently than students enrolled at the 500/600 level.

See the Master of Science in Environmental Science section of this Catalog for additional BGES course listings.

**BIO 500/700** Graduate Orientation I (1-0-1). Topics include program rules and regulations, research opportunities, scientific writing, and scientific ethics.

**BIO 502/702** Graduate Orientation II (1-0-1). Topics include rules and regulations, laboratory and radiation safety, and animal care and handling.

**BIO 504/704 Biological Chemistry (3-0-3).** Prerequisite: BIO 306 or equivalent. Metabolic reactions of the cell for energy production and storage. Structure and function of proteins, carbohydrates, and lipids. Regulation and control of metabolic pathways.

BIO 506/706 Computer Applications in Biology (3-0-3). Uses of computer methods in the biological sciences. Emphasis is placed on computer applications, including programming languages, statistical analysis software, electronic communication, and text processing tools. An applications-oriented final project is required, as well as regular, interactive computer exercises.

#### BIO 510/710 Practice and Theory of Light Microscopy (3-0-3).

Prerequisite: Permission of instructor; Co-requisite: BIO 511/711. In-depth consideration of principles and diverse modes of light microscopy, which are of major importance in biological research, and aspects of microtechnique.

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BIO 511/711 Practice and Theory of Light Microscopy Laboratory (0-2-

1). Prerequisite: Permission of instructor; Co-requisite: BIO 510/710. In-depth consideration of principles and diverse modes of light microscopy, which are of major importance in biological research, and aspects of microtechnique. Course includes demonstrations and student projects to be undertaken outside scheduled class time.

**BIO 512/712** Advanced Immunology (2-0-2). Prerequisites: BIO 308/309, BIO 412/413, and BIO 504/704; Co-requisite: BIO 513/713. The study of immune cell development, organization and expression of immunoglobulin and T cell receptor genes, including antigen processing and presentation, cytokine regulation, apoptosis, immunity to infections, diseases, and vaccines.

**BIO 513/713** Advanced Immunology Laboratory (0-4-2). Prerequisites: BIO 308/309, BIO 412/413, and BIO 504/704; Co-requisite: BIO 512/712. The laboratory covers antibody production, general immunoassays, tissue culture techniques, and genetic engineering techniques.

**BIO 516/716 Protozoology (3-0-3).** Prerequisite: A course in microbiology; Co-requisite: BIO 517/717. Classification, morphology, and physiology of protozoa.

**BIO 517/717 Protozoology Laboratory (0-2-1).** Prerequisite: A course in microbiology; Co-requisite: BIO 516/716. Laboratory methods for isolation, examination, manipulation, and experimentation with protozoa.

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**BIO 518/718 Histology (3-0-3).** Co-requisite: BIO 519/719. Structure of mammalian cells, tissues, and organs with emphasis on relations of structure and function.

**BIO 519/719 Histology Laboratory (0-2-1).** Co-requisite: BIO 518/718. Laboratory study of mammalian cells, tissues, and organs with emphasis on relations of structure and function.

BIO 520 Explorations in Biology: Inquiry-Based Investigations of Urban Ecosystems (1-2-2). A week-long introduction to the ecology of human-dominated ecosystems. Lectures and laboratories consider biodiversity, human impacts on ecosystems and vice versa, and ecological monitoring programs and their integration into school curricula. Intended for upper elementary, middle, and high school teachers. Held at the Woodlake Environmental Field Station, Peninsula, Ohio.

**BIO 526/726** Neurobiology (3-0-3). Prerequisite: BIO 301 or equivalent. Exploration of the relation of behavior to neural function; topics include basic neurophysiology and properties of sensory and motor systems illustrated with human and non-human examples.

**BIO 527/727 Neurobiology Laboratory (0-4-2).** Prerequisite or corequisite: BIO 526/726, or equivalent and permission of instructor. Classical invertebrate experiments that provide an introduction to standard neurobiological techniques for studying neural activity, including simple dissection, stimulating and recording neural activity, and analyzing data.

**BIO 528/728 Endocrinology (3-0-3).** Introduction to functions of hormones and endocrine glands, including mechanisms controlling hormone secretion; mammalian systems emphasized.

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**BIO 535/735** Techniques in Molecular Biology (1-6-4). Prerequisite: Permission of instructor. A lecture/laboratory course in the fundamentals of modern biotechnology with emphasis on the techniques and procedures of molecular biology. Students work together to complete a project.

**BIO 536/736 Evolutionary Genetics (3-0-3).** An introduction to the modern theory of evolutionary genetics, including development of the concepts of genetic diversity, natural selection, random genetic drift, population substructure, infinite-alleles models, and the neutral theory of molecular evolution.

**BIO 540/740 Biostatistics (3-0-3).** Introductory course in biostatistics, including probability, statistical inference, hypothesis testing, regression, and other analytical statistical methods applicable to biology.

**BIO 542/742 Morphometrics (3-0-3).** Application of mathematical and statistical methodology to problems of biological structure and functional form. Individual projects involve detailed morphometric analyses of real data.

**BIO 550/750 Evolutionary Biology (3-0-3).** Prerequisite: BIO 304 or equivalent. Advanced lectures on evolution that consider traits, genes, and their interaction with environmental variation. Topics include the basic quantitative methods required to interpret evolutionary change, the consequences of population structure, molecular approaches to phylogenetic studies, and the changes in genetic variation under different models of selection, drift, migration, and mutation.

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**BIO 552/752** Marine Ecology (3-0-3). Prerequisites: BIO 300 or BIO 301, and BIO 304, or equivalents. An advanced ecology course that encompasses marine biology, ecological adaptations of organisms to the marine environment, and interspecific interactions. This course covers marine habitats and the specializations of organisms that live in them.

**BIO 554/754** Ecology (3-0-3). Prerequisites: BIO 304 or equivalent. Study of interactions of organisms within their environment, including growth and regulation of populations, communities, energetics of organisms and ecosystems, life-history evolution, and systems ecology.

**BIO 555/755** Ecology Laboratory (0-4-2). Prerequisites: BIO 304 or equivalent. Selected exercises designed to reinforce concepts covered in BIO 554/754 and to provide field experience in ecology. The laboratory includes a few one-day field trips on weekends.

**BIO 558/758 Behavior (3-0-3).** An introduction to and survey of animal behavior from an evolutionary perspective.

**BIO 564/764 Developmental Biology (3-0-3).** Prerequisite: A course in embryology or developmental biology; Co-requisite: BIO 565/765. An experimental analysis of the mechanisms of development with emphasis on events at the molecular, cellular, and tissue levels of organization.

**BIO 565/765 Developmental Biology Laboratory (0-2-1).** Prerequisite: A course in embryology or developmental biology; Co-requisite: BIO 564/764. An experimental analysis of the mechanisms of development with emphasis on events at the molecular, cellular, and tissue levels of organization.

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**BIO 578/778 Morphology of Flowering Plants (3-0-3).** Prerequisite: Any botany course for biology majors, or permission of instructor; Co-requisite: BIO 579/779. Study of the overall form, the development, and to a minor extent, the microscopic structure of the vegetative and reproductive structure of flowering plants (angiosperms).

### **BIO 579/779** Morphology of Flowering Plants Laboratory (0-2-1).

Prerequisite: Any botany course for biology majors, or permission of instructor; Co-requisite: BIO 578/778. Study of the overall form, the development, and to a minor extent, the microscopic structure of the vegetative and reproductive structure of flowering plants (angiosperms).

**BIO 584/684** Writing and Editing Grant Proposals (1-0-1). The fundamentals of preparing grant proposals to private, state, and federal agencies. Key topics include formulating specific experimental aims, experimental design, critique, and re-submission.

**BIO 593** Special Topics in Biology (3-0-3). Prerequisite: Permission of instructor. Study of a particular topic in biology. Topics to be announced in semester Course Schedule. May be repeated for credit with a change of topic.

**BIO 594** Special Topics in Biology (4-0-4). Prerequisite: Permission of

instructor. Study of a particular topic in biology. Topics to be announced in semester Course Schedule. May be repeated for credit with a change of topic.

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**BIO 595** Environmental Seminar (1-0-1). Prerequisite: Permission of instructor. An interdisciplinary seminar addressing the scientific, technological, and policy aspects of environmental issues. Primarily for students seeking the M.S. degree in Environmental Science.

**BIO 596/796** Independent Study in Biology (0-4-2). Prerequisite: Permission of Graduate Program Director. Special research problem or independent study course. May be repeated for credit with a change of topic.

**BIO 597/797** Independent Study in Biology (0-8-4). Prerequisite: Permission of Graduate Program Director. Special research problem or independent study course. May be repeated for credit with a change of topic.

**BIO 602/802** Enzymology (3-0-3). Prerequisite: BIO 504/704 or equivalent. General consideration of enzyme nomenclature, purification, assay, introductory kinetics and mechanisms, cofactors, active sites, subunit structure, allosteric and regulatory properties, and the control of multi-enzyme systems.

**BIO 604/804** Cell Biology (3-0-3). Examination of basic cellular processes, including structure and function of organelles and biomembranes, intracellular transport, cell motility and shape, and cellular signaling events as they relate to proliferation, differentiation, apoptosis, and the integration of cells into tissues. Consideration of the experimental basis with extensive use of the primary literature.

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**BIO 606/806 Pharmacology (3-0-3).** The study of specific drug actions with regard to organ systems; covers specific drugs, their mechanisms of action as well as their pharmacological effects; therapeutic actions of drugs are stressed.

**BIO 608/808 Pharmacodynamics (3-0-3).** Principles of the interaction between drugs and tissues. **BIO 610/810 Molecular Biology and Genetics (3-0-3).** Prerequisite: BIO 504/704 or equivalent. Structure and function of nucleic acids. Replication, modification, and recombination of DNA. Transcription, translation, and regulation of transcription and translation.

**BIO 612/812** Microbial Physiology (3-0-3). Prerequisites: BIO 416 and BIO 504/704, or equivalents. Microbial growth and reproduction considered at the molecular level; discussions of structure, growth kinetics, synthesis of DNA, RNA, and protein, regulation of metabolism, and other biological molecules; physiology; metabolic pathways of bacteria, fungi, and protozoans.

**BIO 616/816** Proliferative Signal Transduction (3-0-3). Prerequisite: BIO 504/704. A general overview of the cell cycle and consideration of factors involved in proliferative signal transduction at the cell surface.

**BIO 622/822** Advanced Vertebrate Physiology (3-0-3). Prerequisites: BIO 200/201 and BIO 202/203 or equivalents, and suitable background in chemistry and physics. Physiology of major organ systems of vertebrates, with an emphasis on mammalian physiology and a major focus on system characteristics, including concepts of homeostasis, feedback regulation, stability, and dynamics.

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**BIO 630/830 Recombinant DNA Techniques (3-0-3).** Prerequisite: BIO 504/704. Theoretical background and practical application of plasmids, restriction and modifying enzymes, lambda phage, and vectors. Discussion of genomic and cDNA libraries and a variety of detection systems for isolating and characterizing cloned DNA, including hybridization techniques and DNA sequence analysis.

**BIO 632/832 Population Genetics (3-0-3).** Prerequisite: Permission of instructor. Theoretical analysis of the mechanisms and consequences of allele frequency changes in populations of organisms.

**BIO 634/834 Developmental Genetics (3-0-3).** Prerequisite: BIO 504/704. A molecular genetics course. Genetics of development in single and multicellular systems, with emphasis on programmed and differential gene expression.

**BIO 638/838** Advances in Cell Biology (3-0-3). Prerequisite: Permission of instructor. In-depth study of significant, recent conceptual or methodological advances in cell biology. Topic varies with the instructor. May be repeated for credit with a change of topic.

**BIO 640/840** Molecular Evolutionary Genetics (3-0-3). Prerequisite: Permission of instructor. Theoretical and practical analyses of genomic evolution at the molecular level. Individual projects involve quantitative studies of nucleotide and protein sequences.

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BIO 651/851 Advanced Research in Field Biology (0-6-3). Prerequisite: Previous course work in ecology, evolution, behavior, or conservation biology or permission of instructor. This course examines field techniques for the analysis of biodiversity and ecological relationships through participation in field research projects. Some study sites may be in remote, primitive locations and may involve international travel. See instructor for location, costs, and

preparations necessary for the course.

**BIO 653/853** Advanced Research in Field Biology (0-8-4). Prerequisite: Previous course work in ecology, evolution, behavior, or conservation biology or permission of instructor. Four-credit version of BIO 651/851.

**BIO 656/856** Environmental Physiology (3-0-3). Prerequisite: BIO 424/425 or equivalent. Physiological adaptations to environmental problems; major environmental variables considered: food and energy, light, temperature, oxygen, water, and salinity; adaptations to daily and seasonal changes in the environment.

BIO 670/870 Advances in Biology (2-0-2). Prerequisite: Permission of BGES Graduate Committee. In-depth study of significant, recent conceptual or methodological advances in modern biology explored through lectures, discussion, and readings of the primary literature. Topic varies with the instructor. May be repeated for credit with a change of topic.

**BIO 672/872** Advances in Molecular Biology (3-0-3). Prerequisite: Permission of BGES Graduate Committee. In-depth study of significant, recent conceptual or methodological advances in molecular biology. Topic varies with the instructor. May be repeated for credit with a change of topic.

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**BIO 674/874** Advances in Ecology (3-0-3). Prerequisite: Permission of BGES Graduate Committee. In-depth study of significant, recent conceptual or methodological advances in ecology. Topic varies with the instructor. May be repeated for credit with a change of topic.

**BIO 676/876** Advances in Physiology (3-0-3). Prerequisite: Permission of BGES Graduate Committee. In-depth study of significant, recent conceptual or methodological advances in physiology. Topic varies with the instructor. May be repeated for credit with a change of topic.

**BIO 678/878** Advances in Evolution (3-0-3). Prerequisite: Permission of BGES Graduate Committee. In-depth study of significant, recent conceptual or methodological advances in evolution. Topic varies with the instructor. May be repeated for credit with a change of topic.

**BIO 688** Graduate Seminar (M.S.) (1-0-1). Topic varies with instructor. May be repeated for credit with a change of topic.

**BIO 690** Qualifying Examination (M.S.) (1-0-1). Prerequisite: Permission of BGES Graduate Committee. Examinations in selected areas of biology. May be repeated. Graded S, F, I.

**BIO 691** M.S. Research (one to 12 credits). Prerequisite: Approval of BGES Graduate Program Director. Research prior to approval of the thesis research proposal for students seeking the M.S. degree. Graded S, NS, F, T.

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**BIO 693** Graduate Project (M.S.) (0-4-2). Prerequisite: Approval of project supervisor. An independent research project terminating with a written report. May be repeated for credit to a limit of six credit hours. Graded S, F, I.

**BIO 694** Graduate Project (M.S.) (0-6-3). Three-credit version of BIO 693. Graded S, F, I.

**BIO 695** M.S. Thesis Research (one to 12 credits). Prerequisite: Approval of BGES Graduate Program Director. Research following approval of the thesis research proposal for students seeking the M.S. degree. Graded S, NS, F, T.

**BIO 888 Ph.D. Seminar (1-0-1).** Topic varies with instructor. May be repeated for credit with a change of topic.

**BIO 891 Ph.D. Research (one to 12 credits).** Prerequisite: Approval of BGES Graduate Program Director. Research prior to approval of the dissertation research proposal for students seeking the Ph.D. degree. Graded S, NS, F, T.

**BIO 895 Ph.D. Dissertation Research (one to 12 credits).** Prerequisite: Approval of BGES Graduate Program Director.

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chemistry





### chemistry courses

**CHM 501** Chemical Information (2-0-2). Prerequisite: CHM 332 or equivalent. Use of the chemical literature, automated chemical filing systems, and computerized library searches.

CHM 502 Biochemistry (3-0-3). Prerequisite: CHM 332. Protein chemistry and metabolism of carbohydrates, lipids, proteins, nucleic acids, vitamins, and hormones, with major emphasis on biochemical processes in human cells and organs, protein purification, enzyme kinetics and energetics of metabolic reactions. Immunology and AIDS, cancer and oncogenesis, DNA replication, RNA synthesis, protein synthesis, and regulation of gene expression.

**CHM 503** Environmental Toxicology (3-0-3). Prerequisite: One year of natural sciences or permission of instructor. Various topics on the impact of environmental pollutants on humans.

**CHM 504** Environmental Chemistry (3-0-3). Prerequisite: CHM 331 or equivalent. Chemical aspects of environmental problems: energy, air, and water pollution; solid waste; toxic substances; and related topics.

CHM 506 Environmental Chemistry Laboratory (0-3-2). Prerequisite: CHM 316 or equivalent. Emphasis on standard methods of analysis of air and water samples.

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CHM 510 Electronics for Chemical Instrumentation (2-2-4). Introductory modular approach to analog and digital electronics, processing of signals, display of results, and control of experimental parameters.

CHM 511 Advanced Instrumental Analysis (3-0-3). Prerequisite: CHM 311 or equivalent; co-requisite: CHM 516. Advanced theory and techniques of modern instrumental analysis with emphasis on optical spectroscopies, potentiometry, amperometry, and coulometry.

CHM 516 Advanced Instrumental Analysis Laboratory (0-6-4). Prerequisite: CHM 300 or equivalent; co-requisite: CHM 511. Laboratory course designed to accompany CHM 511. Offered day and evening.

**CHM 521 Special Topics in Physical Chemistry (3-0-3).** Prerequisite: Approval of advisor. Discussion of special topics in physical chemistry, reflecting student and faculty interests.

**CHM 523 Statistical Thermodynamics (3-0-3).** Prerequisite: CHM 322 or equivalent. Fundamentals of statistical mechanics and distribution laws; development and application of partition functions to the evaluation of thermodynamics properties of chemical substances.

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**CHM 524** Chemical Kinetics (3-0-3). Prerequisite: CHM 322 or equivalent. Principles of rate processes considered and applied to chemical kinetics; investigation of unimolecular and bimolecular reactions and effects of isotopic substitution.

CHM 531 Advanced Organic Chemistry (2-0-2). Prerequisite: CHM 332 or equivalent. Applications of spectroscopic techniques in the study of organic reactions and compounds.

**CHM 561 Polymer Chemistry (3-0-3).** Prerequisites: CHM 332 and CHM 322 or equivalent. Introduction to structure, properties, kinetics, and mechanisms of polymerization, copolymerization, and polycondensation.

**CHM 597 Topics in Chemistry (one to eight credits).** Prerequisite: Permission of instructor. Discussion of selected topics in chemistry as determined by faculty and student interest. Offered occasionally.

**CHM 600/700** Chemistry Teaching (2-0-2). Prerequisite: Approval of advisor. Orientation to the philosophy and methods used in teaching chemistry; observation and directed practice teaching in the laboratory and classroom.

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CHM 604/704 Special Topics in Environmental Chemistry (3-0-3). Prerequisites: CHM 504 and approval of advisor. Discussion of special topics in environmental chemistry, reflecting student and faculty interests.

CHM 605/705 Analytical Toxicology I (1-3-3). Prerequisite: CHM 311 or equivalent. Introduction to medical toxicology and therapeutic drug monitoring. Lectures and laboratories on drug analysis by chromato-graphic techniques.

CHM 606/706 Analytical Toxicology II (1-3-3). Lectures and laboratories on principles and practice of assessing the impact of exposure to environmental pollutants: levels of pollutants, metabolites, and adducts in human tissues, cells, and body fluids are examined by various methods of analyses.

### CHM 611/711 Special Topics in Analytical Chemistry (3-0-3).

Prerequisite: Approval of advisor. Discussion of special topics in analytical chemistry, reflecting student and faculty interests.

**CHM 612/712** Advanced Analytical Chemistry (3-0-3). Prerequisite: CHM 511 or equivalent. Theoretical principles of analytical chemistry, including equilibrium, error analysis, and quantitative calculations.

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**CHM 613/713 Electroanalytical Chemistry (3-0-3).** Prerequisite: CHM 511 or equivalent. Properties and analytical applications of the electrochemical cell.

**CHM 614/714** Chromatography and Separation (3-0-3). Prerequisite: CHM 511 or equivalent. Comprehensive survey of separation techniques, including solvent extraction, gas chromatography, liquid chromatography, and capillary electrophoresis.

**CHM 615/715** Advanced Mass Spectrometry (3-0-3). Prerequisite: Approval of advisor. This course covers electrospray, MALDI, CI, APCI, EI, and other novel ionization methods, as well as quadruple, TOF, FTMS, and double sector mass spectrometry. GC/MS and LC/MC also are discussed.

CHM 616/717 Advanced Spectroscopic Methods (3-0-3). Prerequisite: CHM 511 or equivalent. Theory and techniques in modern optical spectroscopic analysis.

**CHM 618/718** X-Ray Crystallography (3-0-3). Introduction to X-ray crystallographic theory and techniques for the determination of molecular structure, including heavy atom and direct methods of solving structure.

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**CHM 619/719 Theory of Analytical Chemistry (3-0-3).** Prerequisite: CHM 612/712. Advanced theoretical treatment of analytical chemistry.

### CHM 625/725 Quantum Chemistry and Spectroscopy (3-0-3).

Prerequisite: Approval of advisor or one year of undergraduate physical chemistry. Principles of quantum theory including aspects of structure and spectroscopy.

**CHM 630/730 Special Topics in Organic Chemistry (4-0-4).** Prerequisite: CHM 631/731 or approval of instructor. Discussion of special topics in organic chemistry reflecting student and faculty interests.

CHM 631/731 Organic Structure and Bonding (4-0-4). Prerequisite: CHM 332 or equivalent. Structure and properties of organic compounds, including stereochemistry, conformational analysis, aromaticity, reactions, and reaction intermediates.

**CHM 633/733 Organic Reactions (4-0-4).** Prerequisite: CHM 631/731. A study of the mechanisms of organic reactions and their implications in synthetic and structural organic chemistry.

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### CHM 640/740 Special Topics in Inorganic Chemistry (3-0-3).

Prerequisite: Approval of advisor. Discussion of special topics in inorganic chemistry, reflecting student and faculty interests.

### CHM 641/741 Inorganic Mechanisms and Structures (3-0-3).

Prerequisite: CHM 441 or equivalent. Application of chemical kinetics, thermodynamics, and elementary quantum chemistry to the determination of mechanisms of inorganic reactions; structural aspects of inorganic reactivities.

CHM 642/742 Theoretical Inorganic Chemistry (3-0-3). Prerequisite: CHM 625/725 or equivalent. Introduction to symmetry and group theory; irreducible representation and character tables; applications to valence-bond and molecular-orbital theories of chemical bonding, structure, and spectroscopy.

**CHM 651/751** Clinical Chemistry I (3-3-4). Laboratory diagnosis of kidney, liver, and hemolytic diseases. Instruction includes physiology and pathophysiology in conjunction with laboratory testing for the above diseases. Laboratory statistics also are covered.

CHM 652/752 Clinical Chemistry II (3-3-4). Laboratory investigations of disorders in acid-base balance, lipid and carbohydrate metabolism, and endocrine functions. Biochemical markers of myocardial infarction. Case studies.

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**CHM 653/753** Advanced Biochemistry I (4-0-4). Prerequisite: CHM 332 or CHM 402. Chemistry of proteins, carbohydrates, and lipids; immunology and AIDS. Enzyme and energetics of metabolic reactions.

CHM 654/754 Advanced Biochemistry II (4-0-4). Prerequisite: CHM

653/753. Metabolism of nitrogen-containing compounds, vertebrate metabolism, neurotransmission, nucleotides, and nucleic acids, DNA processes, RNA synthesis and processing, protein synthesis, gene expression, and cancer.

**CHM 655/755 Biotechnology Techniques (1-5-4)**. Techniques of immunoassays and techniques of isolation, manipulation, and analysis of proteins/nucleic acids are covered. Includes both lecture and laboratory.

### CHM 656/756 Internship in Clinical Chemistry I (11 credits).

Prerequisite: Approval of the Director of Clinical Chemistry. Students rotate through the clinical laboratory at Cleveland medical centers, being trained in instrumentation, quality control, and diagnostic uses of various testing methodologies. Students are assigned evaluations and/or development projects for a more in-depth experience. Management issues of the clinical laboratory also are addressed. Offered in the summer to clinical chemistry majors only.

### CHM 661/761 Macromolecular Structure and Dynamics (3-0-3).

Prerequisites: Undergraduate organic chemistry and physical or analytical chemistry, or permission of instructor. Basics and application of analytical techniques to the study of macromolecular structure and dynamics, including protein and RNA folding, protein and nucleic acid structure and function. Spectroscopic examination of biomolecules including the use of optical techniques, NMR methods, FTIR, EPR, mass spectrometry, and X-ray methods. Separation techniques including electrophoresis, HPLC, and CE.

### CHM 679/779 Advanced Chemistry Laboratory (one to 11 credits).

Prerequisite: Approval of advisor. An advanced laboratory program in selected techniques to be determined by the needs and interests of the student. Offered every semester.

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CHM 695/795 Chemistry Seminar (1-0-1). Introduction to effective collection, organization, and presentation of technical information. Students are required to present seminars, preferably dealing with some aspect of their proposed research program.

**CHM 699** M.S. Thesis (credit as arranged). Prerequisite: Departmental approval. Methods and techniques of experimental research under the direction of a faculty advisor; includes submission of an acceptable thesis. Offered every semester.

**CHM 750** Special Topics in Clinical Chemistry (1-0-1). Prerequisite: Approval of advisor. Discussion of special topics in clinical chemistry and related clinical disciplines.

CHM 757 Internship in Clinical Chemistry II (11 credits). Prerequisite:

Approval of the Director of Clinical Chemistry. Students rotate through instrumentation stations not covered in the first internship course (CHM 656/756) in the clinical laboratory at The Cleveland Clinic Foundation or other medical facility. Topic areas are the same as described for CHM 656/756. Offered in the summer to clinical chemistry majors only.

**CHM 759** Clinical Chemistry Seminar (1-0-1). Tutorial and student participation program emphasizing current developments in various facets of clinical chemistry. Open only to clinical chemistry majors.

**CHM 891 Candidacy Examination (one credit).** Prerequisite: Approval of advisor. Offered every semester.

**CHM 899 Ph.D. Dissertation (credit as arranged).** Prerequisite: Departmental approval. Doctoral research under the direction of a faculty advisor; includes submission of an acceptable dissertation. Offered every semester.

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# environmental science





## environmental science courses

See the Master of Science in Biology section of this Catalog for additional course listings.

**EVS 506** Ecosystem Science (3-0-3). Introduction to the science of ecosystems. Substantive materials from geology, biology, and chemistry are used to create a picture of the complex systems underlying the natural world and human society, and how society can manage these systems.

**EVS 510** Environmental Geology for Teachers (3-0-3). Detailed examination of geologic hazards and the constraints placed by regional geology and geography on the problems facing modern, urban, industrial societies. Intended for working teachers in area school systems. Involves development of curricular materials for use in participants' own classes. Credit does not count toward the M.S. in Environmental Sciences degree.

**EVS 512** Geological History of the Cleveland Area for Teachers (3-0-3).

Illustrates the relation of regional geology to the physical, economic, and social development of the Cleveland area. Emphasis on laboratory experimentation and field trips. Intended for working teachers in area school systems. Involves development of curricular materials for use in participants' own classes. Credit does not count toward the M.S. in Environmental Sciences degree.

**EVS 514** Ecosystem Science for Teachers (3-0-3). Introduces the science of ecosystems. Draws on geology, biology, chemistry, and other sciences to examine the function of complex systems underpinning the natural world and human society, and to consider how society manages these systems. Intended for working teachers in area school systems. Involves the development of curricular materials for use in participants' own classes. Credit does not count toward the M.S. in Environmental Sciences degree.

**EVS 520** Rivers and Watersheds of Northeast Ohio (2-0-2). Prerequisite: EVS 523 or permission of instructor. Theoretical introduction to the study of watersheds.

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**EVS 521 Rivers and Watersheds Laboratory (0-4-2).** Prerequisite: EVS 523 or permission of instructor. Introduction to the practical study of watersheds. Students examine chemical, biological, and habitat aspects of area streams; study the watersheds of those streams; and carry out limited watershed-modeling exercises designed to help them understand the dynamics of watersheds and the streams that drain them.

### **EVS 523** Map Interpretation and the Visualization of Space (1-4-3).

Practicum on using topographic, geologic, and specialized maps, aerial photographs, and satellite imagery to interpret and communicate information on landscape details, geologic and geographic hazards, and land-use planning. Review of physical geology to enable students to read the literature in applied geology for environmental applications.

**EVS 525** Introduction to Geographic Information Systems and Remote Sensing (2-4-4). Prerequisite: EVS 523 or equivalent. Introduction to remote sensing, Geographic Information Systems, and the use of computerized techniques for assessing geographically distributed data, including analysis and presentation of data, and the use of satellite imagery and aerial photography, and commercial and Internet data sets. Lectures to be scheduled within lab hours.

**EVS 527** Advanced Topics in Remote Sensing and Geographic Information Systems (1-6-4). Prerequisite: EVS 525. Intensive investigation of the techniques and problems associated with using remotely sensed data for GIS-based analyses in geology, biology, and environmental science.

**EVS 560** Geomorphology (3-2-4). Prerequisite: EVS 523 or equivalent. Study of the surface forms of the earth, with emphasis on erosional or depositional processes in different climates, the landforms they produce, and their environmental implications. Includes self-paced laboratory exercises outside of scheduled lectures.

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**EVS 593** Special Topics in Environmental Science (3-0-3). Prerequisite: Permission of instructor. Study of a particular topic in environmental science. Topics to be announced in semester course schedule. May be repeated for credit with a change of topic.

**EVS 594** Special Topics in Environmental Science (4-0-4). Prerequisite: Permission of instructor. Study of a particular topic in environmental science. Topics to be announced in semester course schedule. May be repeated for credit with a change of topic.

EVS 596 Independent Study in Environmental Science (0-4-2). Prerequisite: Permission of BGES Graduate Program Director. Special research

problem or independent study course. May be repeated for credit with a change of topic. Students should make arrangements with an instructor concerning topic, format, and grading criteria before registering for this course.

### **EVS 597** Independent Study in Environmental Science (0-8-4).

Prerequisite: Permission of BGES Graduate Program Director. Special research problem or independent study course. May be repeated for credit with a change of topic. Students should make arrangements with an instructor concerning topic, format, and grading criteria before registering for this course.

**EVS 680** Issues in Environmental Science (3-0-3). In-depth study of significant, conceptual, or methodological issues in environmental science from geological and biological perspectives. Topic varies with the instructor. May be repeated for credit with a change of topic.

### EVS 691 M.S. Research in Environmental Science (one to 12 credits).

Prerequisite: Approval of Graduate Program Director. Research prior to approval of the thesis research proposal for students seeking the M.S. degree in Environmental Science. Graded S, NS, F, T.

**EVS 695** M.S. Thesis Research in Environmental Science (one to 12 credits). Prerequisite: Approval of Graduate Program Director. Research following approval of the thesis research proposal for students seeking the M. S. degree in Environmental Science. Graded S, NS, F, T.

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natural sciences:

# mathematics





# mathematics courses

**Advanced Undergraduate Courses:** A maximum of eight credit hours of 400-level courses may be applied toward a master's degree in mathematics.

MTH 401 Mathematical Modeling (4-0-4). Deterministic and probabilistic models chosen from the areas of linear optimization, Markov chains, game theory, graphs and networks, axiom systems, growth processes, and queuing systems.

MTH 420 Combinatorial Mathematics (4-0-4). A one-semester, four-hour course in combinatorial mathematics. The major topics are counting, recurrence relations, and graph theory; the emphasis is algorithmic.

MTH 424 Applications of Probability (4-0-4). Modeling techniques for probabilistic systems and analysis of Monte Carlo simulations. Discrete time Markov chains, Poisson process, Birth-and-Death process, Renewal processes. Random walks and Brownian motion. Applications include queuing theory, financial models, populations, inventory theory, and optimization of stochastic systems.

MTH 434 Differential Geometry (4-0-4). Geometry of curves and parametric surfaces, Gaussian and mean curvatures, geodesics, and other topics as time permits, including minimal surfaces, non-Euclidean models, and aspects of relativity.

MTH 487 Dynamical Systems (4-0-4). Systems of differential equations, local and global behavior of a vector field in the plane, discrete dynamical systems, structural stability, the Poincare-Bendixon theorem, bifurcations, chaos, and strange attractors.

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**Graduate Courses** 

MTH 513 Linear Algebra with Geometry (4-0-4). Systems of linear equations, determinants and volumes, vector spaces, linear transformations, eigenvalues, and eigenvectors; an emphasis on the associated geometry in two-and three-dimensions.

### MTH 514 Linear Algebra and Functions of Several Variables (4-0-4).

Vector spaces, linear transformations, eigenvalues, eigenvectors, canonical forms of matrices, matrix decompositions, applications of linear algebra, calculus of functions of several variables, Jacobians, Taylor's formula, multiple integrals, surface integrals, and change of variables formula.

MTH 516 Complex Variables (4-0-4). Analytic functions, line integrals, Cauchy-Riemann equations, Cauchy's theorem and integral formula, Laurent series, residues, conformal mapping, harmonic functions, and applications to electrostatics, heat flow, and fluid flow.

MTH 518 Technology in Teaching (4-0-4). A variety of topics that emphasize the use of computers and graphing calculators in mathematics and education.

### MTH 525 Mathematical Methods in Engineering and Science I (4-0-4).

Part one of a two-part sequence devoted to methods of applied mathematics, including various topics in ordinary and partial differential equations, integral equations, and calculus of variations, as well as specific applications to engineering and the sciences.

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### MTH 526 Numbers, Patterns, and Operations for Middle School

**Teachers (4-0-4).** Prerequisite: Teacher licensure or consent of Mathematics Department Chairperson. An in-depth study of mathematical topics in middle school curricula in the area of numbers, patterns, and operations. Topics include numeration concepts, concepts of measurement, study of rational and irrational numbers, proportionality, estimation, and operations. Credit may not be applied toward completion of the M.A. or M.S. degree in Mathematics.

### MTH 527 Algebra and Functions for Middle School Teachers (4-0-4).

Prerequisite: Teacher licensure or consent of Mathematics Department Chairperson. Emphasis on algebra as a powerful symbolic language for studying patterns, relations, and variation; for solving linear and quadratic equations and inequalities; and for modeling real-life situations. Emphasis is on variables and functions in symbolic and graphical forms, especially linear, quadratic, exponential, logarithmic, and inverse functions. Goals include developing a deep understanding of these topics as appropriate for middle school teachers. Credit may not be applied toward completion of the M.A. or M.S. degree in Mathematics.

MTH 528 Geometry for Middle School Teachers (4-0-4). Prerequisite: Teacher licensure or consent of Mathematics Department Chairperson. This course is designed to increase the conceptual understanding of geometry for middle school teachers. Topics include dynamic geometry, integrating the use of computer software; basic geometry theorems and constructions; similarity, proportion, scaling, and geometric growth; tessellations; simple trigonometric relationships; van Hiele levels of geometric graphical representations; transformational geometry; and analytic geometry. Credit may not be applied toward completion of the M.A. or M.S. degree in Mathematics.

### MTH 529 Data Analysis and Probability for Middle School Teachers (4-0-

**4).** Prerequisite: Teacher licensure or consent of Mathematics Department Chairperson. Ratios, fractions, percentages, data collection, graphical experimentation, basic strategies of data analysis, some statistical methods to analyze data, and inference based on date and simulation. Credit may not be applied toward completion of the M.A. or M.S. degree in Mathematics.

### MTH 530 Conversational Calculus for Middle School Teachers (4-0-4).

Prerequisite: Teacher licensure or consent of Mathematics Department Chairperson. An introduction to the concepts of calculus. Pictures and handson experiments are used to develop an overview of the big ideas and an appreciation of how calculus helps us understand the real world. Includes differentiation, integration, and applications of calculus to the real world. Credit may not be applied toward completion of the M.A. or M.S. degree in Mathematics.

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MTH 532 Probabilistic Models (4-0-4). Modeling of real-world problems using methods of probability theory such as Markov chains, queuing theory, decision analysis, and simulation.

MTH 537 Operations Research I (4-0-4). Linear programming, including the simplex method, sensitivity analysis, duality, and integer programming. Additional topics selected from LU decomposition, dual simplex algorithm, game theory, Karmarkar's algorithm, as well as topics from nonlinear programming, such as steepest descent and Kuhn-Tucker conditions. Part one of a two-part sequence.

MTH 539 Discrete Mathematics (4-0-4). Counting principles, basic combinatorics and graph theory, graph theory algorithms, and linear programming.

MTH 542 Continuous Mathematical Models (4-0-4). Modeling of real-world problems in science and economics using differential equations.

MTH 547 Calculus from an Advanced Viewpoint (4-0-4). A historical approach to calculus emphasizing the difficulties in formulating and

controversies surrounding the fundamental ideas of the subject.

MTH 553 Algebra with Applications (4-0-4). Introduction to modern algebra with emphasis on topics relevant to the secondary mathe-matics curriculum, including congruence, fields, polynomials and roots, and applications.

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MTH 564 Statistics and Data Analysis (4-0-4). Introduction to statistics, including descriptive statistics, sampling, expected value, estimation, hypothesis testing, and statistical computing software.

MTH 567 Probability and Statistics I (4-0-4). An applied statistics course with an emphasis on the design of experiments and hypothesis testing. Topics include Analysis of Variance (one-way, blocked, two-way, repeated measures) and the nonparametric counterparts. These techniques utilize the underlying probability distributions, including the Normal, t, F, and chi-square distributions. The course emphasizes the link between statistical graphics and formal statistical tests and involve the use of a statistical programming language. Part one of a two-part sequence.

MTH 577 Numerical Methods I (4-0-4). Introduction to the numerical methods of financial derivatives. Topics include an overview of the basic concepts of mathematical finance, computational tools such as binomial methods, finite-difference methods, and methods for evaluating American options and Monte Carlo simulation. Numerical experiments are conducted using software such as Matlab, Microsoft Excel, and Maple, but no previous familiarity with these packages is assumed. Part one of a two-part sequence.

### MTH 580 Geometry from an Advanced Viewpoint (4-0-4).

Transformational geometry in two- and three-dimensions, congruence and similarity, conics, tilings, and applications.

MTH 581 Chaos and Fractals (4-0-4). Topics in chaotic dynamical systems and fractals, such as one-dimensional discrete systems, Julia and Mandelbrot sets, chaotic differential equations, and iterated function systems.

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MTH 593/693 Special Topics in Mathematics (4-0-4). Detailed study of a selected topic in advanced mathematics. Topic will vary depending on instructor. May be taken for credit more than once, but no single topic may be repeated. Consult the Mathematics Department for current offerings.

MTH 597/697 Readings in Mathematics (one to four credits). Independent study under the supervision of a faculty member.

MTH 626 Mathematical Methods in Engineering and Science II (4-0-4).

Prerequisite: MTH 525 or permission of instructor. Part two of a two-part sequence devoted to methods of applied mathematics, including various topics in ordinary and partial differential equations, integral equations, and calculus of variations, as well as specific applications to engineering and the sciences.

MTH 638 Operations Research II (4-0-4). Prerequisite: MTH 537 or permission of instructor. Stochastic models, Markov chains, queuing theory, reliability theory, forecasting, and decision processes. Part two of a two-part sequence.

MTH 668 Probability and Statistics II (4-0-4). Prerequisite: MTH 567 or permission of instructor. An applied statistics course with an emphasis on the topics related to regression (simple linear, multiple, logistic, and Poisson). Students predict probabilities with odds and relative risk ratios. Emphasis is on interpreting statistical graphics and their link to formal statistical tests. The course involves the use of a statistical programming language. Part two of a two-part sequence.

MTH 678 Numerical Methods II (4-0-4). Prerequisite: MTH 577 or permission of instructor. Applications of numerical methods to real-life problems in science and engineering. Topics may include the following: initial value problems, the radar problem, the calibration problem, building exploratory environments, refined graphics, numerical approximation of orbits in the planar three-body problem, effect of spin on trajectories, least squares problems, and boundary value problems. Numerical experiments are conducted using software such as Matlab and Maple, but no previous familiarity with these packages is assumed. Part two of a two-part sequence.

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# communication





## communication courses

COM 501 Pro Seminar in Communication (4-0-4). Introduction to the history of science, communication theories, and the nature of scientific inquiry. Focuses on a survey of major theories, the logic of communication inquiry, techniques in literature search and review, and the skills in critiquing research. Also examines the structure and logic of the scientific method, as well as different research methodologies and when they are employed. Introduces students to key principles of design, sampling, reliability and validity, measurement, and hypothesis testing.

COM 510 Organizational Communication Theory (4-0-4). Prerequisite: COM 501 or permission of instructor. Focuses on three main issues: 1) major theoretic approaches to studying organizations, and the communication models emphasized in each approach; 2) major variations in processes and effects of organizational communication when analyzed by the structure, function, and level of communication system; 3) applications of concepts and principles for describing and analyzing organizational communication processes and effects.

**COM 512** Communication Research Methods (4-0-4). Examines specific quantitative and qualitative research methods, including survey, experimental, content analytic, and observational designs. Emphasis is on design and execution of research for exploratory, descriptive, and explanatory purposes. Students also learn statistical procedures employed in analyzing data through an introduction to multivariate statistics and an overview of t-tests, analysis of variance, and multiple regression techniques.

**COM 520** Interpersonal Communication Theory (4-0-4). Prerequisite: COM 501 or permission of instructor. Focuses on communication networks and the relational dimensions of communication behavior, including control and affective functions of verbal and nonverbal communication; examination of human communication models as they relate to both information theory and the "systems approach." Emphasis on interaction theories of personality in explaining interpersonal communication behavior.

**COM 530** Mass Communication Theory (4-0-4). Provides students with an introduction to the major theories and concepts in the field of mass

communication. Attention is devoted to communication perspectives and to psychological perspectives. Topics include determinants of mass media news, effects of television news, political advertising and debates, television violence effects, TV and children, media economics, and the sociology and psychology of the mass media audience.

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COM 531 Multivariate Statistical Methods (4-0-4). Prerequisite: COM 512. Advanced methods course on multivariate statistical methods used in analyzing research in human communication. Focuses primarily on understanding these methods and statistics rather than on their actual performance and calculation. Students should be able to critically read and analyze published research in communication, including the methodological and statistical sections of these articles, as well as to use computer packages to apply multivariate statistical tests, including factor analysis, multiple regression, discriminant analysis, MANOVA models, cluster analysis, and multi-dimensional scaling.

COM 532 Audience/Media Research Methods (4-0-4). Introduction to applied research methods in public relations, advertising, and media in relation to the nature of and relations between audience and media. Focuses on demographic and psychographic research methods, audience measurement techniques such as audience ratings, quantitative and qualitative research data gathering, analysis and interpretation methods such as focus groups, surveys, and experiments.

COM 533 Content Analysis Research Methods (4-0-4). An empirical and systematic investigation of documented messages < in print, graphical, and audio-visual forms < and observed human communication behaviors. Focuses on the design and execution of content analytic studies, including form vs. content variables, measurement issues, reliability and validity assessment, a systems view of research findings, use of a computer text analysis program, and traditional human-coder techniques.

### COM 534 Ethnographic/Qualitative Research Methods (4-0-4).

Assumptions behind and strategies for conducting ethnographic research. Qualitative techniques of data collection, including intensive interviews, field observations, and use of various cultural texts. Methods of data analysis and the writing of ethnographic studies. Emphasis on the ethnography of communication.

COM 535 Participant Observation/ Interviewing Methods (4-0-4). An examination of the basic principles and strategies of participant observation < a method of collecting information utilizing creative judgment and systematic procedures. Theoretical basis for collecting data using the combination of qualitative and quantitative methodologies are discussed. Techniques of interviewing and mini-fieldwork participant observation are discussed and

practiced.

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### COM 540 Persuasive Communication and Campaigns (4-0-4).

Prerequisite: COM 501 or permission of instructor. Study of persuasive communication and campaigns. Focuses on major communication theories of persuasion, current issues and problems in persuasive communication, and an examination of mass and interpersonal persuasive campaign issues such as attitude formation, fear appeals, cognitive dissonance theory, and interpersonal persuasion. Students may construct campaigns and persuasive appeals for application.

**COM 541 Political Communication (4-0-4).** This seminar explores theory and research on political communication. The role of mass media and public opinion in American politics is examined, focusing on media and elections, agenda setting, political advertising, campaigning, and presidential debates. Contemporary and classic theories of press and politics are critically examined.

**COM 542** Communication and Technology (4-0-4). An in-depth study of the fundamental nature and components of existing and emerging communication technologies and their relationship to society. Focuses on the discussion of current socio-cultural, economic, and regulatory issues relevant to the development of these technologies and their ongoing convergence in the information society as well as their impact on communication systems.

**COM 543 Theory Building (4-0-4).** The examination of the structure, assumptions, and testing of various theories in the physical and social sciences and their application to communication science as well as theory construction techniques.

### **COM 544** Mediation and Collaborative Problem Solving (4-0-4).

Examines how mediation works, factors that determine whether mediation can be used to resolve disputes, and the conditions under which mediation is most effective.

**COM 548 Managing Organizational Teams (4-0-4).** Focuses on the structure, functions, and processes of organizational teams and work groups. Special attention is given to promoting effective teamwork in today's organizations through methods of team building and examining leadership issues confronting teams.

**COM 549 Health Communication (4-0-4).** Focuses on interactions of people involved in the health care process and the dissemination and interpretation of health-related messages. Emphasis is on provider-recipient communication, communication in health concerns as they relate to physical, mental, and social health issues.

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### COM 589 Collaborative Research Project (one to four credits).

Prerequisite: Grade of "B" or higher in COM 531. Exit option for completion of the master's program. Students work with faculty on a significant team project and are involved in conceptualization, project design, data collection, data analysis and evaluation, preparing and writing reports, and presentation of results to clients. The nature of the project selected is announced in advance. Graded S/F.

**COM 590 Internship in Communication (four credits).** Fieldwork with community agencies concerned with promotional communication, communication in organizations, political campaigns, and the media. Offered every semester; see advisor for help in scheduling. Graded S/F. No more than four credit hours from either COM 590 or COM 596 may be counted toward degree completion.

COM 595 Seminar in Communication Theory and Methodology (4-0-4). In-depth analysis of one or more specific issues in communication theory in relation to an applied problem in communication. Area of primary emphasis varies depending on the instructor. (Theory or methodology course; may be repeated with change in topic.)

**COM 596 Problems in Communication (one to four credits).** In-depth examination of a student-selected communication topic via independent study. Typically involves the utilization of appropriate research methods (e.g., field survey, attitude poll, experimental investigation) as applied to the student's proposed research topic. Students may serve as research interns in a faculty member's program of research. Offered every semester; see advisor for help in scheduling. No more than four credit hours from either COM 596 or COM 590 may be counted toward degree completion.

**COM 597 Comprehensive Examination (two credits).** Prerequisites: Permission of instructor and Graduate Director, and completion of 36 hours required for graduation. Students enroll in the course the semester they take the comprehensive examination. (May be repeated.) Graded S/F.

**COM 598** Research Project (one to nine credits). Design and execution of an individual research project directed toward analysis of a communication problem found in a career-related setting. (May be repeated until completed.) Graded S/F.

**COM 599** Thesis (one to nine credits), Writing of a master's thesis under the direction of a member of the department faculty. Thesis research must be conducted within the boundaries set by faculty expertise. (May be repeated until completed.) Graded S/F.

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# economics





### economics courses

**ECN 501** Macroeconomic Analysis (3-0-3). Concentration on macroeconomics, the money and banking system, and national income and employment analysis. For M.B.A. students only; candidates for the M.A. in Economics may not include this course as part of their required 33 hours.

**ECN 502** Microeconomic Analysis (3-0-3). Emphasis on microeconomics; theory of consumer behavior and of the firm, and the pricing process in markets. For M.B.A. students only; candidates for the M.A. in Economics may not include this course as part of their required 33 hours.

ECN 503 Economic Concepts (3-0-3). A survey of microeconomic and macroeconomic concepts. Topics include supply and demand; comparative advantage; marginal and sunk costs; market structure; profits; aggregate fluctuations; money; and fiscal and monetary policy. This course is intended for M.B.A. candidates. Candidates for the M.A. in Economics may not include this course as part of their required 33 hours, nor to fulfill program prerequisites.

**ECN 511** American Economic History (3-0-3). Prerequisites: Intermediate microeconomic and macroeconomic theory. Examination of the economic theories underlying the development of the American economy. Offered only on sufficient demand.

**ECN 515 History of Economic Analysis (3-0-3).** Prerequisites: Intermediate microeconomic and macroeconomic theory. Development of economic theories and their relationship to each other, from ancient to modern schools of thought. Offered only on sufficient demand.

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**ECN 516** Comparative Economic Systems (3-0-3). Prerequisites: Intermediate microeconomic and macroeconomic theory. Analysis of selected economic systems with an emphasis on economic planning. Offered only on sufficient demand.

**ECN 541** Business Fluctuations and Forecasting (4-0-4). Prerequisite: Intermediate macroeconomics or equivalent. Nature and causes of business fluctuations, business cycle theories; methods of forecasting GDP, inflation, and unemployment; micro-foundations of macroeconomic forecasting equations dealing with consumption functions, investment function, demand for money, Okun's law, Phillip's curve, price equation.

**ECN 550** Economics of Law (4-0-4). Prerequisite: Intermediate microeconomics or equivalent. The concepts of public and private goods, externalities, and benefits versus cost are used to analyze the effects and efficiency of property, contract, tort, and criminal law. In addition, the tradeoffs are examined in such areas as plea bargaining, trial versus settlement of civil cases, and various arrangements for payment of legal costs.

**ECN 561 Public Expenditures (3-0-3).** Prerequisite: Intermediate microeconomics. Introduction to public sector economics, including welfare economics and the role of the public sector in a mixed economy; public expenditure theory; and economic analysis of various federal government expenditure programs. Offered on sufficient demand.

**ECN 562 Taxation (3-0-3).** Prerequisite: Intermediate microeconomics. Economic theory of taxation; economic analysis of federal taxation, including the personal income, corporate, and social security taxes; and analysis of such state and local taxes as property and sales. Offered on sufficient demand.

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Intermediate micro-economic theory. Location theory of the firm and industry, industrial locational patterns, land use patterns, measurement of economic activity, and regional trade; regional hierarchies and systems of cities; techniques of regional analysis; base theory, local multipliers, input-output

activity, and regional trade; regional hierarchies and systems of cities; techniques of regional analysis; base theory, local multipliers, input-output analysis, gravity, potential, and spatial interaction models. Offered only on sufficient demand.

ECN 570 Urban and Regional Economics (3-0-3). Prerequisite:

ECN 572 Urban Manpower Problems (3-0-3). Prerequisite: Intermediate microeco-nomic theory. Intensive analysis of labor markets; wages and income determination and distribution; structural versus demand unemployment; productivity and the supply of labor; technology and changes in demand for labor; unemployment and urban poverty; job security, wage and hour regulation; training and manpower policies. Offered only on sufficient demand.

### ECN 574 Environmental and Natural Resource Economics (4-0-4).

Prerequisite: Intermediate microeconomic theory. Analysis of the causes of environmental problems using the concepts of public goods and externalities. Examination of the impact and efficiency of regulatory approaches in controlling pollution and congestion. Externality and sustainability issues involving the rate of exploitation of natural resources are explored. Both

positive and normative economic reasoning are applied to the related issues of population size, economic-ecological interactions, and future prospects for humanity.

ECN 582 International Economics (4-0-4). Prerequisites: Intermediate microeconomic and macroeconomic theory. The determinants of comparative advantage and the pattern of international trade; the gains from trade, and the effects of trade restrictions; trade, growth, and development; the balance of payments; the economics of exchange rates; macroeconomics in an open economy. (Cross-listed with ECN 782. Candidates for the M.A. in Economics should register for ECN 582.)

**ECN 585** Economics of Development and Growth (3-0-3). Prerequisites: Intermediate microeconomic and macroeconomic theory. A theoretical approach to development problems of the less-developed nations; comparison of various growth theories; the role of capital, infrastructure, international assistance, and the surplus labor economy. Offered only on sufficient demand.

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**ECN 610** Mathematical Economics for Economists (2-0-2). Prerequisite: MTH 181 or equivalent. Provides a technical foundation for other graduate courses. An examination of calculus of one and several variables, including partial and total differentiation, and first and second order derivatives, with applications to economic analysis and optimization. Elements of matrix algebra are studied along with various applications.

**ECN 622** Statistical Methods for Economists (3-0-3). Prerequisite: OMS 201 or equivalent. Econometric methods and their applications; regression analysis and its extensions.

**ECN 625** Econometrics (4-0-4). Prerequisites: ECN 610 and ECN 622 or equivalents. Classical least squares assumptions for simple and multiple regression; estimation; associated statistics, e.g., R2, hypothesis testing, and confidence intervals; scaling; prediction; dummy variables; heteroscedasticity; autoregressive disturbances; multicollinearity; certain types of specification error; lagged relationships; simultaneous equilibrium models; limited dependent variable models; time series topics. (Cross-listed with ECN 725. Candidates for the M.A. in Economics should register for ECN 625.)

ECN 633 Advanced Microeconomics (4-0-4). Prerequisites or co-requisite: ECN 610 or equivalent and intermediate microeconom-ics. Consumer theory; choice and demand under certainty and uncertainty; intertemporal choice; production, input demand and cost, supply; and perfectly competitive markets and applications. (Cross-listed with ECN 733. Candidates for the M.A. in Economics should register for ECN 633.)

ECN 635 Competition and Strategy (4-0-4). Prerequisites or co-requisite:

ECN 610 or equivalent and intermediate microeconomics. Organization of firms and markets in perfectly competitive industries. Internal organizational strategies (scale and scope, make-or-buy, centralization vs. decentralization, etc.), external competitive strategies (pricing, product choice, advertising, entry and exit, R&D, etc.), and their mutual interdependence are analyzed. (Crosslisted with ECN 735. Candidates for the M.A. in Economics should register for ECN 635.)

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**ECN 643** Advanced Macroeconomics (4-0-4). Prerequisites: ECN 610 or equivalent and intermediate macroeconomics. An analytical examination of the forces that determine the level of national income, employment, prices, and economic growth under the classical, Keynesian, and post-Keynesian assumptions; Ricardian equivalence, time inconsistency issue, growth models, macroeconomic policy. (Cross-listed with ECN 743. Candidates for the M.A. in Economics should register for ECN 643.)

**ECN 654 Financial Economics (4-0-4).** Prerequisite: ECN 633. Monetary systems; financial markets; financial intermediation; risk; term structure of interest rates; models of stock and bond prices; capital asset pricing model; financial derivatives; the efficient markets hypothesis; central banking; monetary theory. (Cross-listed with ECN 754. Candidates for the M.A. in Economics should register for ECN 654.)

**ECN 656** Monetary Theory and Policy (3-0-3). Prerequisite: ECN 654. Monetary theories, supply and demand for money, and the instruments of monetary control, including the influence of monetary policy on money and capital markets; examination of proposed alternate monetary policies. Offered only on sufficient demand.

**ECN 694** Special Topics in Economics (credit as arranged, maximum of four). Prerequisite: Permission of instructor. Course title and content may change from term to term.

ECN 695 Seminar in Economics (credit as arranged, maximum of four). Prerequisite: Permission of instructor. Discussion course in a particular area of economics with one instructor and a small group of students.

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### **DBA Courses**

Courses offered as part of the Doctor of Business Administration program are:

**ECN 725** Econometrics (4-0-4). Prerequisites: ECN 610 and ECN 622, or permission of instructor. Classical least squares assumptions for simple and

multiple regression; estimation; associated statistics, e.g., R2, hypothesis testing, and confidence intervals; scaling; prediction; dummy variables; heteroscedasticity; autoregressive disturbances; multicollinearity; certain types of specification error; lagged relationships; simultaneous equilibrium models; limited dependent variable models; time series topics. (Cross-listed with ECN 625.)

**ECN 733** Advanced Microeconomics (4-0-4). Prerequisites or co-requisite: ECN 610 and intermediate microeconomics. Consumer theory; choice and demand under certainty and uncertainty, intertemporal choice; production, input demand and cost, supply; and perfectly competitive markets and applications. (Cross-listed with ECN 633.)

ECN 735 Competition and Strategy (4-0-4). Prerequisites or co-requisite: ECN 610 and intermediate microeconomics. Organization of firms and markets in perfectly competitive industries. Internal organizational strategies (scale and scope, make-or-buy, centralization vs. decentralization, etc.), external competitive strategies (pricing, product choice, advertising, entry and exit, R&D, etc.), and their mutual interdependence are analyzed. (Cross-listed with ECN 635.)

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**ECN 743** Advanced Macroeconomics (4-0-4). Prerequisites: ECN 610 and intermediate microeconomics. An analytical examination of the forces that determine the level of national income, employment, prices, and economic growth under the classical, Keynesian, and post-Keynesian assumptions; Ricardian equivalence, time inconsistency issue, growth models, macroeconomic policy. (Cross-listed with ECN 643.)

**ECN 754** Financial Economics (4-0-4). Prerequisite: ECN 733. Monetary systems; financial markets; financial intermediation; risk; term structure of interest rates; models of stock and bond prices; capital asset pricing model; financial derivatives; the efficient markets hypothesis; central banking; monetary theory. (Cross-listed with ECN 654.)

**ECN 782** Advanced International Economics (4-0-4). Prerequisites: ECN 610 or equivalent and intermediate microeconomics. The determinants of comparative advantage and the pattern of international trade; the gains from trade and the effects of trade restrictions; trade, growth, and development; the balance of payments; the economics of exchange rates; macroeconomics in an open economy. (Cross-listed with ECN 582.)

**ECN 794** Special Topics in Economics (credit as arranged, maximum of four). Prerequisite: Permission of instructor. Course title and content may change from term to term.

ECN 795 Seminar in Economics (credit as arranged, maximum of four).

Prerequisite: Permission of instructor. The seminar focuses on a particular area of economics, and requires class presentations by students and out-of-class writing assignments, as well as other assignments chosen by the instructor. Return to top [ CATALOG SITE MAP] [ SITE MAP-TEXT ONLY] [ GRADUATE CATALOG HOME]



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social and behavioral sciences:

# psychology





### psychology courses

**PSY 511** Univariate Statistics and Experimental Methodology (4-0-4). Special correlational methods, elementary experimental design, and hypothesis testing in psychological research.

**PSY 512 Field Research Methodology (4-0-4).** Prerequisites: PSY 511 or equivalent, and permission of instructor. Survey sample selection, questionnaire construction, structured interview procedures, and attitude/opinion measurement procedures.

**PSY 513** Measurement and Program Evaluation (2-0-2). The course examines program evaluation methods in terms of task-specific knowledge (e. g., principles of measurement), skills (e.g., data analysis), and process issues, using a case study approach based on actual program evaluations from a variety of educational institutions (e.g., Cleveland Municipal Schools, local foundations, ODE's Office for Exceptional Children).

**PSY 518 Personnel Psychology (4-0-4).** Prerequisite: Permission of instructor, with preference for students with testing experience. Systems and procedures of employee selection. Secondary emphasis on the application of learning principles to employee training.

**PSY 519** Consumer Psychology (4-0-4). An analysis of the impact of attitudes, motivation, personality, and learning processes on an individual's use of goods and services, with applications to marketing research, public opinion polling, and advertising research.

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**PSY 522 Organizational Psychology (4-0-4).** Analysis of the "organizing" of work from a psychological perspective and the application of psychological principles to improve organizational effectiveness. Topics range from work motivation to organizational theory. Other areas of focus include leadership, job attitudes, job design, and organizational climate.

- **PSY 523** Assessment Techniques (3-0-3). Intensive study of selected psychological tests widely used in educational and vocational counseling; emphasis on practical skills and decision making.
- **PSY 525** Social Psychology (4-0-4). Review of the field with emphasis on social motivation, social cognition, impression formation, social influence, attitude change, and group processes; consideration of social processes in applied settings.
- **PSY 535** Clinical Interviewing Practicum (2-0-2). Introduction to the process of clinical interviewing, including personal issues, role considerations, development of the therapeutic alliance, active listening skills (e.g., focusing, interpretation, confrontation, etc.), and the conduct of the initial interview. Instruction employs didactic lectures, modeling, class exercises, and student role-playing.

# PSY 536 Behavioral Observation and Consultation Practicum (2-0-2). Examination and application of methods for measuring behavior in naturalistic settings, including sampling methods and graphic displays of data for purposes of problem identification and progress monitoring under treatment conditions. Concepts and methods of consultation are introduced.

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- **PSY 537** Child and Adolescent Assessment and Treatment (4-0-4). This course provides students with a background in assessment and intervention for common academic, affective, and behavior problems experienced by schoolaged children. Emphasizes the direct link between assessment and intervention. Students gain competencies in the development and delivery of evidence-based interventions for childhood problems.
- **PSY 538** Intellectual Assessment and Practicum (4-0-4). Practicum experience in the administration and interpretation of standardized tests of ability, with emphasis on psychological report-writing. Secondary emphasis on major and contemporary theories of intelligence and their applications in measurement instruments.
- **PSY 542** Theories of Personality (4-0-4). A consideration of major personality theories, with an examination of their implications for application and research.
- **PSY 545** Advanced Child Psychology (4-0-4). A consideration and critique of theories and research in the areas of cognitive development, language acquisition, and social cognition. The course focuses on empirical evaluation of theories and contemporary research.
- **PSY 549** Aging and Mental Health Issues (4-0-4). Examination of ideas and empirical findings concerning critical periods and issues in adult

development and aging. Topics include sexuality, marriage, divorce, careers and employment, life styles, sex roles, biological changes in aging, and subcultural differences.

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### PSY 550 Child and Adolescent Development and Disorders (4-0-4).

Consideration of theories and research relating to the development of individual affective patterns; ontogenetic development of motor, sensory, perceptual, cognitive, and linguistic skills in infants, children, and adolescents.

**PSY 555** Adult Psychopathology (4-0-4). Survey and critique of traditional nosologies in social and behavioral deviance and the influence of nosologies on assessment; a consideration of some innovative schemes of classification; analysis of pathological process in symptom and syndrome; practice in classification skills.

**PSY 561** Classical, Instrumental, and Operant Conditioning (4-0-4). An examination of experimental methodology, empirical phenomena, and theoretical developments in these areas. Offered in alternate years.

**PSY 562** Learning, Memory, and Cognition (4-0-4). A comprehensive treatment of recent research and major theoretical positions in the areas of human learning, memory, and cognitive processes. Offered in alternate years.

**PSY 564 Psychoeducational Intervention (4-0-4).** Prerequisites: PSY 535, PSY 536, and permission of instructor. Practicum experience in the application of behavioral consultation methods to problem solving in school settings, including strategies for data collection, intervention design, progressmonitoring, and techniques for facilitating adherence to intervention plans.

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**PSY 568** Advanced Perception (4-0-4). Study of the major theories and research methodologies of perception; stresses current research derived from classical and contemporary theories. Offered in alternate years.

**PSY 570** Learning and Behavior Change in Children and Adults (4-0-4). Examination of the philosophical, theoretical, empirical, pragmatic, and ethical considerations involved in the assessment and modification of human behavior in a variety of settings (e.g., home, office, hospital, worksite, school, residential facility). Modification of both overt and covert behaviors are examined.

**PSY 572** Group Interventions (2-0-2). Basic knowledge about group process, development, and leadership. Applications of group interventions in school settings and practice in applying group leadership skills.

**PSY 573 Group Dynamics (4-0-4).** Examination of interpersonal relations and group processes. The complexity of group differences within an organization is explored, including the sources of conflict that cause divisions and the synergy that can lead to positive change.

**PSY 582 Personality Theory and Research (4-0-4).** Examination of current personality research and assessment in the context of personality theory.

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**PSY 586** Conceptual Issues in Psychology (4-0-4). Conceptual problems and issues in contemporary psychology are explored analytically and historically; writings that expose or exemplify such problems are examined.

**PSY 587** Personality Testing and Laboratory (4-0-4). A wide range of tests of motivation, ability, interests, personality traits, and psychopathology are considered. Psychometric characteristics are examined. Concepts underlying test construction and interpretation are presented. Analysis of case studies is an integral part of the course.

**PSY 588 History of Psychology (4-0-4).** Historical overview of psychological ideas, movements, and institutions in their cultural settings from Greek and Roman schools of thought to the present, with emphasis on the most recent four centuries.

**PSY 589** Physiological Psychology (4-0-4). Examination of the physiological processes that underlie perception and behavior of the organism, including major findings and theoretical issues that have resulted from research in this area.

**PSY 590** Consumer Psychology Internship (4-0-4). Designed for graduate students with a previously arranged internship. This course provides supervisory experience and culminates in an interpretive paper on the internship experience.

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**PSY 593** Special Topics in Psychology (two to four credits). Prerequisite: Permission of instructor. Course content announced in the Course Schedule.

### PSY 596 Special Problems in Psychology (credit as arranged).

Prerequisites: Graduate status, permission of instructor, and departmental approval. Individualized study in psychology designed to supplement individual program needs. The student must arrange program and credit with a faculty member and obtain written permission before enrolling. May be repeated for up to 12 credit hours.

**PSY 604** Concepts and Methods of Individual Psychotherapy (4-0-4). An introduction to the concepts and methods underlying a wide range of individual psychotherapeutic interventions, as well as an exploration of the assumptions and socio-historical foundations of the psychotherapies. Examines and explores concepts underlying a number of specific therapeutic approaches as well as problems and solutions regarding eclecticism and therapeutic integration.

**PSY 605** Human Services Consultation and Intervention (4-0-4). The relationship of psychology to social, community, and organizational change is examined. Consulting as a mental health professional is emphasized.

**PSY 611** Advanced Data Analysis with Computer Applications (4-0-4). Simultaneous, sequential, and hierarchical multiple regression and other advanced statistical topics are considered. Transforming non-linear data and detecting multicollinearity are discussed. Students analyze data using statistical software and interpret results.

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**PSY 620** Advanced Consumer Research (4-0-4). Prerequisites: PSY 511, PSY 519, and/or permission of instructor. Combines analysis of psychological processes with advanced statistical techniques and applies them to investigations of consumer behavior.

**PSY 650** Family and Systems Intervention (2-0-2). Couple, family, and group interventions used in clinical practice are explored from a systems perspective. Concepts and methods of couple, family, and group therapy are examined.

**PSY 651 Clinical Psychopharmacology (4-0-4).** Survey of the principles of drug action on the nervous system and behavior, with particular regard to drugs used in social, medical, and psychotherapeutic settings.

**PSY 660 Ethical, Legal, and Professional Issues (2-0-2).** Detailed examination of the ethical, legal, and professional issues that govern the practice of psychology. Topics include the APA code of ethics, Ohio Psychology Law, the role of values, diversity issues, therapist and consultant responsibilities, client rights, the judicial system, risk management, and work with children, schools, couples, families, and groups.

**PSY 663** Neuropsychological Assessment (4-0-4). Examines the use of testing devices that measure an individual's cognitive, perceptual, and motor performances as indicants of the extent and location of brain damage.

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**PSY 667** Special Topics in Psychology (two to four credits). Prerequisite:

Permission of instructor. Course content is described in the Course Schedule.

**PSY 670** Crisis Management (2-0-2). Covers a broad range of approaches to crisis intervention in different settings, including acute psychological debriefings, critical incident stress management, military debriefings, defusings, and acute therapeutic intervention strategies, with attention to post-traumatic stress disorder, and acute and prolonged stress reactions to life crises.

**PSY 671 Stress, Abuse, and Trauma (4-0-4).** Practicum with emphasis on understanding the psychological consequences of unusually stressful life experiences which include such events as childhood abuse, national disaster, war trauma, and other traumatic events. Special emphasis on the diagnosis, assessment, and treatment of post-traumatic stress disorder.

### PSY 672 Multicultural Psychology and Diversity Practicum (4-0-4).

Examination of theories of differences and their application to behavioral and organizational change. Through didactic and experimental exercises, the course focuses on the sensitivities and information needed to work effectively with multicultural populations.

### PSY 685 Directed Readings for Comprehensive Exam and Thesis (4-0-4).

A series of directed readings in the areas covered by the comprehensive exam as well as required procedures for thesis research. Open to students who have completed Group A and Group B course requirements.

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**PSY 690 and 691 Fieldwork Placement (four credits each).** Placements in clinical, community, hospital, and educational settings for supervised experience in psychological assessment and intervention. In addition to placement experience, students are supervised in small groups by faculty members who are licensed psychologists. Taken in sequence during Fall and Spring for a total of eight credit hours.

**PSY 694** Directed Observation in the Schools (0-2-2). Prerequisite: Permission of instructor. Directed observation and participation in a school setting for students in the Specialist in Psychology program to meet state certification requirements. Applies only to those not holding an Ohio Teaching Certificate or license.

### PSY 696 Special Problems in Psychology (credit as arranged).

Prerequisites: Advanced graduate status, permission of instructor, and departmental approval. Individualized study in psychology designed to supplement individual program needs. The student must arrange the program and credit with a faculty member and obtain written permission before enrolling. May be repeated for up to 12 credit hours.

**PSY 698** Applied Research Project (4-0-4). Prerequisite: Permission of

instructor. Supervised research in consumer psychology, industrial psychology, and related topics.

PSY 699 Research and Thesis (variable credit).

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**PSY 725 and 726** Role and Function of the School Psychologist I and II (2-0-2). Prerequisite: Permission of instructor. Examination of the profession of school psychology, including history, legal and ethical issues, service delivery models, employment trends, credentialing standards, and contemporary issues.

**PSY 767** Special Topics in School Psychology (one to four credits). Prerequisite: Enrollment in the Specialist in Psychology program, or permission of instructor. Course content announced in the Course Schedule.

**PSY 790 and 791** Supervised Experience in School Psychology (six credits). Prerequisite: Permission of instructor. Full-time school psychology internship experience for students enrolled in the School Psychology program.

**PSY 795 and 796 Seminar in School Psychology (2-0-2).** Prerequisite: Permission of instructor. Offered in conjunction with PSY 790/791 Supervised Experience in School Psychology. Focuses on advanced issues in the practice of school psychology through the use of discussion, case presentations, and resource-sharing. Topics include behavioral consultation, legal and ethical issues, service delivery models, special populations, and assessment technology.

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## social and behavioral sciences: social work





### social work courses

**SWK 601 and 602 Foundation Field Practicum (3-0-3).** A two-semester, 400-clock-hour, supervised internship in a social service agency. Facilitates the acquisition of practice skills and experience appropriate for generalist social work practice and prepares students for entry into the second year.

**SWK 603 and 604 Advanced Field Practicum (3-0-3).** A two-semester, 500-clock-hour, supervised internship in a social service agency, based on the student's concentration. Designed to provide learning experiences to apply and test content from the professional foundation and the micro- or macro-practice concentrations. Students engage in a continuous process of analysis, testing, and transferring of learning from one situation to another.

**SWK 605 Social Work Practice with Large Systems (3-0-3).** Designed to assist first-year graduate students in developing the knowledge base necessary for an understanding of the contemporary American community, its structure, politics, factors contributing to its growth and/or decline, and the roles and functions of various human service agencies and/or organizations within the community.

**SWK 607** Advanced Practice with Small Systems I (3-0-3). Focuses on the individual, families, and small groups. Students will be challenged to integrate human behavior theory with therapeutic change strategies and practice principles.

**SWK 608** Advanced Practice with Small Systems II (3-0-3). A continuation of the sequence of courses related to social work practice with small systems. Includes assessment issues for individuals, families, and nontraditional couples that need restoration of adequate emotional and social functioning. The primary focus is on therapeutic techniques and helping the student develop a conceptual framework for clinical intervention.

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SWK 609 Social Work Practice with Small Systems (3-0-3). Designed to

help the student develop a professional social work world view and to conceptualize problems and human interaction from such a perspective.

**SWK 611 Dynamics of Racism and Discrimination (3-0-3).** Examines historical issues, social conditions, and social theory as a means to conceptualize racism and discrimination. Students will identify the underlying social policy issues as well as implications for direct social work practice.

**SWK 622 Fundamentals of Social Work Research I (3-0-3).** Designed to introduce students to the logic of scientific inquiry, the research process, and the relationship between research and social work practice. Provides students with the knowledge to critically evaluate existing social work research; to contribute at a beginning level to the development of research; to understand the principles and processes of evaluating practice; and to consider research issues regarding values and ethics within a social work frame of reference.

**SWK 623 Fundamentals of Social Work Research II (3-0-3).** Builds and expands on the knowledge acquired in Fundamentals of Social Work Research I, and increases the student's knowledge of, and mastery of, skills for practice-related research and evaluation. The course enhances and expands the student's understanding of quantitative and qualitative research methodologies and their function in social work research and practice. Students will gain computer skills in text and data processing, and in accessing electronic resources and electronic communication.

#### SWK 631 Human Behavior and Social Environment: Small Systems (3-0-

**3).** Focuses on human development and behavior throughout the life course, utilizing biopsychosocial development and functioning of individuals in the context of small systems. Several theoretical approaches to explaining human behavior and personality development are offered to the students, such as child development, personality theories, developmental tasks over the life span, and influence of parents in contributing to growth and development.

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#### SWK 632 Human Behavior and Social Environment: Large Systems (3-0-

3). Focuses on the human behavior of people as members of larger social systems, including small groups, communities, and formal and informal organizations and institutions. The course also provides knowledge of how institutional racism, sexism, discrimination based on sexual orientation, and other forms of oppression influence these social systems and how human diversity can be capitalized on to foster social justice and equality.

**SWK 646** Social Welfare Policy I (3-0-3). Examines the historical role of social policy in presenting obstacles, especially for racial and ethnic minorities, women, individuals with disabilities, the elderly, and gays and lesbians, to achieving maximum social, emotional, and physical well being. Also, how these negative policies have obstructed the profession of social work from

carrying out its mission.

**SWK 647 Social Welfare Policy II (3-0-3).** Provides students with the opportunity to continue the development of their conceptual and analytical skills for analyzing social policies and programs which started in Social Welfare Policy I. The second goal is to help the students develop the necessary knowledge and skills for becoming social-change agents, especially in defining their role(s) within the political process.

**SWK 650** Advanced Standing (6-0-6). Provides an integrative view of social work practice with an emphasis on values, foundation knowledge and skills, and evaluation of professional interventions.

**SWK 663** Psychopathy and Social Work (3-0-3). Provides an examination of the symptoms, theories, and psychosocial aspects of mental disorders and the role of the social worker in the treatment of them.

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**SWK 664 Direct Practice Research (3-0-3).** Provides students with indepth training to engage in the evaluation of processes and outcomes in direct social work practice with individuals, couples, families, and groups.

**SWK 665** Supervision and Staff Development (3-0-3). Prerequisite: Second-level graduate student or permission of instructor. An examination of the purpose, functions, and theories of supervision; the impact of cultural, ethnic, and racial differences in supervisory staff development and problems encountered.

**SWK 671 Social Work Administration (3-0-3).** Introduces students to the social, economic, and political factors which lead to the passage of certain pieces of legislation. Examines the organizational processes within the service delivery systems and the types of program impacts they have on the lives of atrisk populations: the racial and minority underclass, the disabled, gay men, lesbians, bisexuals, the elderly, welfare recipients, and the homeless.

**SWK 672 Strategies of Community Organization (3-0-3).** A second course in Community Organization which is required for all students in the Macro Practice sequence and builds on SWK 673. Prepares students with knowledge and skills in interventive strategies and tactics of organizing communities. Also, provides strategies for citizen involvement, empowering community advocacy interventions. Special emphasis is given to working with vulnerable populations, especially in urban America.

**SWK 673** Community Organization and Planning (3 0-3). Provides an overview of the concepts and philosophy of community organizing and planning in our multicultural society. Enhances an overall understanding of the social, political, and economic environments which help shape and structure

communities, and organizations affecting people. Students also learn a variety of resources available for organizing and planning from both the public and private sectors at the local, state, and national levels.

SWK 674 Community, Economic Systems, and Political Analysis (3-0 3). Examines the enactment of social policies, the translation of policies into social programs, and political and economical considerations. Includes an examination of the social, political, and economic subsystems of the client community.

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**SWK 675 Program Evaluation (3-0-3).** Provides students with an understanding of the principles of program evaluation and acquisition of techniques necessary to evaluate human service programs. Introduces students to the application of research methodology to assess human service needs and the effectiveness of service programs and to examine roles of program evaluators as facilitators of empowerment of oppressed groups, especially racial and ethnic minorities, women, individuals with disabilities, the elderly, gays, and lesbians.

**SWK 680** Aging and Social Work Practice (3-0-3). Examines the well being and service needs of older Americans and acquaints students with the benefits, resources, and services available to meet the needs of the elderly in their own homes, in the community, in housing projects, and in institutional settings. Students will have the opportunity to learn about policies, programs, service agencies, and intervention strategies in the field of aging.

**SWK 685** Social Work Practice with Families and Children (3-0-3). An introduction to social work practice with families and children (and youth) from a competency-based perspective drawing from solution amplifying and restoring (narrative) practice models. Home-based and managed mental health care have accelerated the expansion of a style of social work practice that is not only time sensitive, but also responsive to helping clients set and achieve observable goals.

**SWK 690** Advanced Practice and Policy in Substance Abuse (3-0-3). Prerequisite: second-level graduate student or permission of instructor. This course provides students with the knowledge and skill base necessary for managing and practice with people involved in substance abuse, evaluating programs, and preventive work.

**SWK 693 Special Topics in Social Work (3-0-3).** Prerequisite: Permission of department. Special offering varying with faculty expertise and student interest. Course title and content may change from term to term.

SWK 695 Health Care: Planning and Policy Issues (3-0-3). Serves as the basis for specialized knowledge in planning and policy issues for students

interested in health care policy issues and options. Students are introduced to the historical development of health care and the policies that guide it on the national, state, and local levels. Special emphasis is given to the effect of planning and policy issues on service delivery. Return to top [ CATALOG SITE MAP] [ SITE MAP-TEXT ONLY] [ GRADUATE CATALOG HOME]



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# social and behavioral sciences:





## sociology courses

**SOC 505 Urban Sociology** (**4-0-4**). The study of metropolitan development and social life. Examines the role of economic, political, and cultural factors at the global, national, and regional levels. Explores the history of urban sociology and contemporary perspectives. Analyzes the process of social change at the metropolitan level.

**SOC 510** Marriage and the Family (4-0-4). Focuses on contemporary issues in American family life, including mate selection, marital communication, transition to parenthood, parenting, sexuality, extended kin, family disruptions, relationship between work and family, and the effects of changing gender roles.

**SOC 511 Individual and Society (4-0-4).** Interaction between the individual and society. Examination of the ways in which society impinges on the individual's behavior with special emphasis on the perspectives of symbolic interactionism, ethnomethodology, and conversation analysis.

**SOC 512 Sociology of Mental Illness (4-0-4).** This course examines three central issues: 1) our changing understanding of mental illness, 2) the variety of approaches for the treatment of mental illness and 3) the impact of social policy on the lives of the mentally ill. By combining historical, medical, and sociological perspectives, this course provides a broad introduction to the study of mental illness. The material is drawn primarily from the United States.

**SOC 513** Sociology of Education (4-0-4). Education as socialization; the dual role of the school as change and conservation agent; characteristics of school populations; changing roles of private and parochial education; organization and structure of authority and decision-making processes in public and private schools.

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**SOC 515 Population Problems (4-0-4).** Sociological significance of population size, distribution, composition, and density; population and economic development; United States population data in relation to other major

countries; programs of family planning; population policies.

**SOC 516** Sociology of Aging (4-0-4). Critical analysis of the social status and participation of older individuals in modern societies. Includes topics such as theories of aging, demography, family ties, economic status, health care delivery systems and long-term care, dying and death, and the United States as an aging society.

**SOC 517 Sociology of Gender (4-0-4).** Examination of the significance of gender differences in the experiences of women and men in social institutions (e.g., family, education, economic, legal, political); the theoretical perspectives utilized to analyze these differences; and the effects of changing expectations on gender roles and identities.

**SOC 518 Childhood and Adolescence (4-0-4).** Explores the place of children and youth in societies by examining conceptions of children that guide adults' expectations of children and social policies, and how age, gender, ethnicity/race, and social class affect the way children are treated by one another and by adults in families, schools, and neighborhoods in Western societies.

**SOC 540 Criminology** (**4-0-4**). Examination of crime as a form of social deviance, crime and law, forms and patterns of criminal behavior, theoretical perspectives on crime and criminality, the criminal justice system, law enforcement, corrections, and effectiveness of societal responses to crime.

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**SOC 541 Juvenile Delinquency** (**4-0-4**). Examination of criminal and other forms of youthful misconduct in the context of the place of children and adolescents in American society. Particular emphasis on the causes of various forms of delinquency and community-based prevention and corrective programs.

**SOC 542 Sociology of Law (4-0-4).** Society and law, foundations of law, legislation and judicial interpretation for regulating behavior, law and social change, and the legal profession.

**SOC 543 Medical Sociology** (**4-0-4**). The role of social and cultural factors in health, re-search on the use of health services, the health professions, health care organizations, and major issues in public policy and health care.

**SOC 545 Social Control (4-0-4).** The course begins with an examination of the meaning of social control, both as a formal and an informal system of constraint. The second part of the course offers a historical account of the emergence and development of the prison in both Europe and the United States. This involves a detailed consideration of the competing historical accounts of the birth of the prison offered by Robin Evans and Michel

Foucault. Finally, the course explores contemporary issues concerning surveillance and the use of technology to exercise control over a modern, predominantly urban population.

**SOC 546** Corporate and Governmental Deviance (4-0-4). Reviews the extent, types, causes, and consequences of crime and deviant behavior both within and by organizations. The focus of the course is on sociological analysis of organizations and crime. Consideration is also given to various policy options designed to deter and/or to punish organizational crime.

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**SOC 555** Ethnographic Research Methods (4-0-4). Collecting, analyzing, and writing research reports based on qualitative data (field notes, transcripts of intensive interviews, and archives) about an organization or setting. Ethical obligations to host organizations and to the research community.

**SOC 556 Database Management for Social Research (4-0-4).** Develop skills to access and manipulate machine-readable data files for social science research, such as data from the U.S. Census Bureau and the General Social Survey. The course is a combination of lecture and lab with students learning-by-doing.

**SOC 580 Racial and Ethnic Inequality (4-0-4).** Historical antecedents and cross-societal comparisons of patterns of dominant and subordinate groupings based on ethnic, cultural, and racial differentiations; patterns of interaction within and among these groups with special attention to prejudice and discrimination.

**SOC 583 Political Sociology (4-0-4).** Analysis of the nature, distribution, and effects of power in contemporary society. Study of the relationship between political, economic, and cultural institutions and power. Exploration of topics including the state, political parties, voting, and collective behavior and social movements.

**SOC 588** Sociology of Work and Organization (4-0-4). Introduction to the sociology of work in contemporary society. Analysis of the meaning of work for men and women and of the different experiences of work in specific occupations. Topics include the organization of the workplace, the relationship between work and family, work and gender, and the effects of social policy on workers and employers.

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**SOC 589 Sociology of Non-Western Societies: Region (4-0-4).** An analysis of social behavior and organization in the emergent instructions of new nations outside the western hemisphere, as rooted in indigenous, colonial, and religion, utilizing modernization and social conflict perspectives on

societal change. Region to be studied is listed in the semester course schedule.

**SOC 640 Sociological Theory (4-0-4).** A review of the major perspectives and key theories in macrosociology (the analysis of large-scale social systems and long-term processes of change) and microsociology (social interaction). Classical thinkers such as Marx, Weber, Durkheim, Simmel, and Mead, as well as a variety of contemporary theorists, are discussed. Emphasis on exploring the ways in which theoretical perspectives have influenced the history of sociology and are used in the conduct of empirical research.

**SOC 650** Sociological Research Methods (4-0-4). Quantitative and qualitative techniques and strategies for designing, conducting, and analyzing applied and basic social research questions. Includes self-report data from structured interviews, sample surveys, and field-note data from participant and non-participant observation.

**SOC 651 Sociological Statistics (4-0-4).** Decisions and procedures for quantitative social data analysis. Review of statistical techniques for frequency distributions, measures of central tendency and dispersion, cross-tabulation, and measures of association. Statistical inference and hypothesis testing. Analysis of variance, correlation, and linear/multiple regression, including an introduction to structural equation models. Computer applications.

**SOC 661** Aging and the Life Course (4-0-4). The social theories of aging, including disengagement, activity, continuity, age stratification, modernization, symbolic interaction, and conflict perspectives. Current research, including work and retirement, health and care-giving, discrimination, political action, and social policy.

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**SOC 662 Deviance and Social Control (4-0-4).** Sociocultural, labeling, and institutional theories are applied to the analysis of the origins, treatment, and prevention of selected forms of deviance.

**SOC 663** Criminological Theory (4-0-4). Students read and discuss classical theoretical works that provide the foundation for explaining criminal behavior, contemporary revisions and extensions of these theories; and empirical research based on both classical and contemporary works. Subject areas include the humanist movement and the emergence of rational theories of crime; the emergence of positivism and ideas of cause and effect; structural theories of crime based on poverty and social inequality; theories of family and peer relationships; and social reaction, critical, and feminist views.

**SOC 670 Gender and Society (4-0-4).** Reviews theoretical and research literature on women and men in contemporary society, including the social construction of gender, socialization into gendered behavior, gender differences in the workforce, and changing family relationships. Emphasis is

on how to move from conceptual frameworks to empirical research on gender issues.

**SOC 672** Advanced Qualitative Methods (4-0-4). Prerequisites: SOC 650 and permission of instructor. Advanced study and applications with one or more topics from SOC 650.

**SOC 673** Advanced Quantitative Methods (4-0-4). Prerequisites: SOC 650 and permission of instructor. Advanced study and applications with one or more topics from SOC 650.

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**SOC 674** Advanced Social Statistics (4-0-4). Prerequisites: SOC 651 and permission of instructor. Special and advanced techniques for multivariate statistical data analysis. Focus on techniques derived from the general linear model, including multiple regression, factor analysis, and discriminant function analysis. Introduction to network analysis.

**SOC 680** Race and Ethnicity in American Society (4-0-4). Graduate seminar that critically analyzes competing perspectives on the causes, maintenance, extent, and consequences of racial and ethnic differences in a variety of contemporary social institutions in the U.S. (e.g., labor and housing markets, education, and the family).

SOC 681 Advanced Seminar in Aging and the Life Course (4-0-4). Prerequisites: SOC 661 and permission of instructor. Advanced study and research with one or more topics from SOC 661.

SOC 682 Advanced Seminar in Deviance and Social Control (4-0-4). Prerequisites: SOC 662 and permission of instructor. Advanced study and research with one or more topics from SOC 662.

SOC 683 Sociological Analysis of Work and Economic Change (4-0-4). Graduate reading-and-research seminar on changes in the contemporary workplace that brings together issues from the sociology of work, the sociology of the economy, and organizational sociology through a focused consideration of the evolution of contemporary economic organizations and jobs.

**SOC 684 Urban Social Change (4-0-4).** Integrates material from urban sociology, political sociology, deviance, social control, collective behavior, and social movements to provide a critical analysis of institutional and non-institutional sources of social change.

**SOC 696 Individualized Study (4-0-4).** Prerequisite: Permission of instructor. Reading, research, and other activities planned jointly by the student and the faculty member and carried out under faculty guidance.

SOC 698 Master's Research Paper (4-0-4). Prerequisite: Permission of instructor. Guidance for individual students who are drafting the master's research paper. Return to top [ CATALOG SITE MAP] [ SITE MAP-TEXT ONLY] [ GRADUATE CATALOG HOME]



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education

engineering

health professions

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urban affairs

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urban affairs:

## environmental studies





## environmental studies courses

See the M.S. in Urban Studies section of this Catalog for information on UST courses. Information on other courses may be found in the M.A. in English, M. S. in Civil Engineering, M.S. in Environmental Science, and M.S. in Physics sections of this Catalog, and in the Cleveland-Marshall College of Law Catalog.

#### **Cross-Listed Courses**

Many of the core, track, and elective courses offered in the Levin College are cross-listed in the M.A.E.S., M.S.U.S, M.P.A., and M.U.P.D.D. Please note that courses with the same title may not be repeated for credit. The exceptions to this rule are ENV/PAD/PDD/UST 693.

ENV 553 Environmental Planning I (4-0-4). Introduction to planning for environmentally sustainable cities and regions. Topics include the values embodied in, and development of, environmental planning as a field of planning; processes that generate the physical landscape (focusing on land processes, water resources, and vegetation); and the impacts of human settlements on the landscape. Local, state, and federal laws and regulations relevant to land use and resource protection are featured. Students become familiar with planning methods and their use. Cross-listed with PDD 553 and UST 553.

**ENV 595** Environmental Seminar (1-0-1). Prerequisite: Permission of instructor. An interdisciplinary seminar addressing the scientific, technological, and policy aspects of environmental issues. Cross-listed with BIO 595, CVE 595, and UST 595.

ENV 652/752 Environmental Policy (4-0-4). An introduction to details of U. S. environmental policy and politics. Policies addressing issues such as clean air and water, solid and toxic waste, energy, land use, biodiversity, sustainability, ecosystems, and global climate change are discussed. The values, preferences, and economic issues that underlie environmental policy are addressed. Local, regional, state, national, and global issues are examined and characterized. The environmental policy-making process is described.

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ENV 653 Environmental Planning II (4-0-4). Prerequisite: ENV 553 or permission of instructor. An advanced course designed for students with knowledge of ecological processes or relevant environmental fields. The course features regional ecological infrastructure and landscape scale. Typical topics include watershed management, land-use change and ecological impacts, and regional open space and habitat preservation. The course provides an opportunity to apply planning processes and techniques such as suitability analysis, GIS mapping, risk assessment or environmental impact assessment through a project exercise. Cross-listed with PDD 653 and UST 653.

#### ENV 654/754 Environmental Institutions and Administration (4-0-4).

This course is an interdisciplinary introduction to the institutions and processes of public policy implementation for environmental issues. This class discusses the major government groups and organizations central to environmental policy making and administration, including Congress, congressional environmental committees, the executive branch, and the judiciary. The roles of bureaus critical to the implementation of environmental policy including the Environmental Protection Agency, the Forest Service, the Bureau of Land Management, and the Department of Energy are explored. Rulemaking, intergovernmental relations, and trans-border issues are emphasized.

ENV 655/755 Environmental Risk and Decision Making (4-0-4). This course surveys the fundamental concepts involved in environmental risk evaluation and risk-based decision-making. Topics include risk assessment, risk management strategies, modeling, catastrophes, uncertainty, and risk perception. Issues arising from differences in expert and lay cognitive frameworks in the use of science for decision making are highlighted. The course also covers the psychological, economic, political, ethical, and legal ramifications of risk-based policy and administrative decision making.

ENV 693/793 Special Topics in Environmental Studies (one to four credits).

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education

engineering

health professions

natural sciences

social and behavioral

sciences

urban affairs

CERTIFICATE AREAS

ADDENDA

urban affairs:

## public administration





## public administration courses

#### **Cross-Listed Courses**

Many of the core, track, and elective courses offered in the Levin College are cross-listed in the three master's degree programs (M.S.U.S., M.P.A., and M.U. P.D.D.). Please note that courses with the same title may not be repeated for credit. The exceptions to this rule are: PAD/PDD/UST 693, PDD/UST 696, PAD/PDD/UST 697, and PAD 698.

PAD 501 Fundamentals of Applied Reasoning I (4-0-4). Prepares students to apply quantitative reasoning in work-setting decisions. The course takes a hands-on approach by using real-life examples to illustrate the use of quantitative tools from algebra, probability, and descriptive statistics in solving concrete problems. Students also acquire computer skills essential for the other quantitative research methods courses and for the courses using computers through hands-on instruction of mathematical and statistical packages (such as Mathcad and SPSS) in the Urban Affairs Computer Lab. Highly recommended as preparation for PAD 601. Cross-listed with PDD 501 and UST 501.

PAD 503 Cartography and Graphics (4-0-4). The principles of map making and the use of presentation graphics in urban planning and research applications. The use of maps and graphics in the analysis of social, economic, and demographic patterns and associations. Hands-on experience with computers and graphic information systems technology. Cross-listed with PDD 503 and UST 503.

#### PAD 510 Proposal Writing and Program Development (4-0-4).

Examination of the structure and content of proposals, sources of funding, foundation decision making, program evaluation, and social/institutional change in the urban environment. Students gain experience through independent preparation of a proposal and application of evaluation procedures.

**PAD 512** Managing Urban Diversity (4-0-4). Study of diversity including circumstances faced in urban settings that are exacerbated or affected by

diversity factors; exploration of a range of social, political, and economic issues related to diversity. Cross-listed with PDD 512 and UST 512.

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**PAD 521 Urban Economics (4-0-4).** Prerequisites: Two courses in economic principles. Location of economic activity; urban growth and income analysis; urban income inequality and stability; local business cycles; urban public economy and its problems; current urban issues; housing and land-use patterns, traffic congestion, poverty, crime, etc. Cross-listed with ECN 470.

# PAD 553 Environmental and Natural Resources Economics (4-0-4). Prerequisite: Microeconomic analysis or permission of instructor. Environmental quality as an economic problem; facts about environmental pollution; analysis of environmental externality; policies for environmental protection; cost-benefit analysis. Cross-listed with ECN 574.

**PAD 573** Columbus Seminar (4-0-4). Intensive one-week experience in Columbus, Ohio. Examination of the state policy and budgeting processes; the impact of budgeting on public policy and service provision.

**PAD 574** Washington Seminar (4-0-4). On-site study of federal urban-policy issues. Two intensive weeks in Washington, D.C., expose students to critical analysis of the federal budget and legislative process, intergovernmental relations problems, and current urban-policy issues; preparatory and follow-up sessions required.

**PAD 594** Levin Chair Seminar (4-0-4). In-depth study of urban policy issues selected by the Albert A. Levin Professor of Urban Studies and Public Service. Cross-listed with UST 594 and PDD 594.

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**PAD 600** Introduction to Public Administration (4-0-4). Covers the functional areas of public administration, including personnel, budgeting, and planning. Reviews the history of public administration as a discipline. Looks at the legal environment of public management and ethics.

PAD 601 Applied Quantitative Reasoning I (4-0-4). Prepares students to apply quantitative reasoning to public administration, planning, and policy design decisions. This course presents the logic of quantitative analysis. Introduction to basic techniques for data description and presentation to lay audiences using computer technology, including spreadsheets, presentation packages, and the Internet; and using a computer package for statistical decisions in the context of public administration and planning. Students learn to identify problems that lend themselves to quantitative analysis; ask questions that can be answered through quantitative reasoning; formulate hypotheses and identify the means to test them; carry out analyses and explorations, understand

the meaning of results, and reapply results to the initial or similar problems; present and clarify results for specified audiences; evaluate results of quantitative analyses carried out and reported by others; and apply the new knowledge to decision making. Cross-listed with PDD 601 and UST 601.

**PAD 602 Applied Quantitative Reasoning II** (**4-0-4**). Prerequisite: PAD 601 or permission of instructor. This course covers the logic of empirical inquiry and the design of research to solve specific urban problems. Among the topics covered are experimental designs, quasi-experimental designs, measurement, validity, reliability, survey design and analysis, performance measurement, program evaluation, and the ethics of the research process. Students develop an executable research design as a product of the course. Cross-listed with PDD 602 and UST 602.

**PAD 603 Public Finance and Economics (4-0-4).** The course deals with the political economy of public spending and alternative methods of financing public spending. Topics include the scope and character of government activities and their economic effects on the private sector, expenditure analysis and evaluation, the budgetary process and politics, the principles and effects of taxation, pricing government services, and the development of basic economic concepts necessary to the understanding of public finance issues.

**PAD 604 Organizational Behavior (4-0-4).** Complex formal organizations are the principal social vehicle for the conduct of public affairs. This course is an introductory graduate seminar which examines the principal conceptual and theoretical bases for understanding the behavior of complex formal organizations, especially large-scale public bureaucracies.

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**PAD 605** Urban Spatial Structures (4-0-4). The manner in which people and places interact in labor, housing, and product markets to produce the urban outcome: cities, housing, employment, and wealth. Cross-listed with PDD 605 and UST 605.

**PAD 612 Urban Political Processes** (**4-0-4**). Governmental structure, processes, and problems arising from physical and social structures of contemporary urban areas; examination of emerging political forces and changing governmental institutions. Cross-listed with PSC 612.

#### PAD 620 Economic Development: Plans and Strategies (4-0-4).

Examination of the techniques utilized in developing plans for overall economic growth and development with an emphasis on the industrial sector; actual experience in formulating and testing plans and development strategies. Requires a comprehensive regional analysis. Cross-listed with PDD 620 and UST 620.

PAD 621 Local Labor Market Analysis (4-0-4). Prerequisites: PAD 601,

PAD 603, and knowledge of Excel or other spreadsheet program. The relationship between the functioning of national, regional, and urban labor markets, earnings distribution, and poverty; review of the theory of labor markets and the impact of unions on wage setting and employment. Crosslisted with PDD 621 and UST 621.

**PAD 622 Economic Development Policy (4-0-4).** An examination of the international and national competitive positions of industry; state and national industrial policy proposals; various approaches to economic development and industrial policy. Cross-listed with PDD 622 and UST 622.

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PAD 623 Urban Development Finance and Applied Project (4-0-4). Prerequisites: PAD 603 and PAD 610. Financing, deal structuring, and analysis of public subsidy for urban real estate projects using discounted cash flow

analysis. Also includes preparation of a comprehensive report and the presentation of an urban real estate project. Cross-listed with PDD 623 and UST 623.

**PAD 624** Anti-Poverty Policy (4-0-4). Prerequisites: PAD 603 or equivalent and PAD 621. Examines the historical development of anti-poverty policy and the economic effectiveness of various welfare reform efforts. Looks at anti-poverty efforts from the perspective of national macroeconomic policy and national programs, moves to state-based efforts, and concludes with community development perspectives on asset accumulation for low-income families. Cross-listed with PDD 624 and UST 624.

**PAD 625** Strategic Thinking (4-0-4). The theory and practice of strategic thinking for planning and management in the public and nonprofit sectors; concepts and procedures that assist planners and managers in coping with uncertainty; development of analytical skills and techniques. Cross-listed with PDD 625 and UST 625.

**PAD 626** Workforce Development (4-0-4). Prerequisite: PAD 603 or equivalent. Workforce development takes place on both the supply and demand sides of the labor market. The demand side deals with the expressed needs of employers for specific skill types. The supply side is divided into efforts to upgrade the skills of incumbent workers and to inculcate marketable skills to new workers. A practical examination of the state of the art in workforce development strategies, policies, and programs. Cross-listed with PDD 626 and UST 626.

**PAD 630 Public Human Resources Management (3-0-3).** The issues and public policies that have an impact on the management of human resources in the public sector. Differences between public and private personnel administration; the American civil service system; recruitment, placement, promotion, training, and compensation; performance assessment; rights and

duties of public employees.

PDD 632 and UST 632.

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**PAD 631** Law and Public Administration (3-0-3). Administrative law as the body of rules and prescriptions for public agencies. The evolution and development of American administrative law, its substance, and the role of administrative law in the governing process.

PAD 632 Organizations and Management in the Public Sector (4-0-4). Traces the history of public management and how this history can be organized to increase the effectiveness of managing public organizations. An overview of management thought, its cultural context, and its "politics." Cross-listed with

**PAD 633 Budgetary Policy (4-0-4).** Covers the importance of budgeting and finance to public policy makers and public administrators. Sources of city and state finance information; examination of the revenue, expenditure, and debt structure of American cities; also includes examination of budgetary processes, formats, and accounting systems. Cross-listed with PDD 633 and UST 633.

**PAD 634** Ethics in the Public Sector (4-0-4). Provides students with an understanding of the ethical dimensions of public administration and helps students develop the awareness, skills, and value framework to act ethically in a public or private sector management role. Cross-listed with UST 634.

**PAD 640 Public Works Management I (4-0-4).** An introductory seminar in the management of public works functions and personnel in local and regional government. The history of the public works profession; contemporary public works functions, practices, and issues. Special problems in financing and maintaining capital stock and managing public works personnel. Cross-listed with PDD 640 and UST 640.

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**PAD 641 Public Works and Urban Service Delivery (4-0-4).** The conceptual issues public managers face when making decisions about the delivery of local services. The delivery of specific public works services and the special problems encountered by local service administrators. A variety of techniques for assessing the effectiveness of urban services examined. Crosslisted with PDD 641.

PAD 642 Introduction to Geographic Information Systems (4-0-4). Prerequisite: PAD 501 or permission of instructor. Principles of Geographic Information Systems (GIS) as a computer tool to provide spatial information

analysis. Laboratory instruction in the use of GIS software to aid in the analysis of workplace problem situations. Cross-listed with PDD 642 and UST 642.

**PAD 643** Advanced GIS (4-0-4). Prerequisites: PAD 642. This course teaches students how to develop and implement various GIS application projects, such as network analysis, polygon overlay, and surface modeling. Students use advanced GIS software tools in completing computer-based analytical exercises. Cross-listed with PDD 643 and UST 643.

**PAD 644 GIS Capstone Seminar (4-0-4).** Provides an overview of current issues in GIS. Students review and discuss their GIS projects/research in the context of these issues. Students review both the technical/practical issues encountered as well as the conceptual implications of their projects. The course offers graduate students the opportunity to reflect on the skills learned during their GIS projects and to provide an overview of ongoing development in the field. Cross-listed with PDD 644 and UST 644.

**PAD 645 Public Works Management II (4-0-4).** Prerequisite: PAD 641. Capstone course providing an intensive investigation of management technique and professional specialization in a number of public works fields, such as transportation, building and grounds, water resources, equipment services, municipal engineering, solid wastes, utility location, and coordination. Students gain hands-on access to professionals and physical plants. Cross-listed with PDD 645.

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PAD 650 Institutional Development of the Nonprofit Organization (4-0-

4). Examines nonprofit organizations as community institutions, and the role of institutional management and leadership in their development. Covers the nature of leadership and management in the nonprofit sector and the differences between them; fund-raising and financial management; governance and the respective roles of board, staff, and volunteers; the political, economic, and inter-governmental environment; community relations; needs assessment; and planning and performance measurement. A highly interactive, hands-on approach emphasizing discussion, case analysis, and problem solving.

#### PAD 651 Fund Raising and External Relations for Nonprofit

**Organizations** (4-0-4). This course provides the fundamentals of fund raising and external relations for nonprofit organizations, with special emphasis on the challenges faced by small to mid-sized community -and faith-based organizations. In a climate of devolution and other significant changes in the nonprofit environment, leaders and managers must pay increasing attention to developing a viable strategy for attracting diverse and sustained financial support as well as for developing productive relations with key stakeholder groups, including clients, area residents, members, trustees, legislators, the press, and other important elements. This course is a practical, hands-on exploration of the skills and knowledge needed to equip leaders and managers of nonprofits to position their organizations effectively.

#### PAD 652 Financial Administration and Control of Nonprofit

**Organizations** (4-0-4). This course provides an understanding of basic financial, budgetary, and accounting concepts, processes, and techniques relevant to managers in nonprofit organizations; develops an appreciation of how and why financial decisions are made and how they affect nonprofit operations; strengthens participants' ability to understand and use financial documents; and develops skills in financial analysis and management.

**PAD 670** Introduction to Law and Public Policy (4-0-4). Introduces the basic structures of the American legal system and how that system interacts with such other disciplines as planning, policy analysis, and public administration in the creation of public policy. First course of a two-course sequence, with PAD 683.

**PAD 683** Law and Public Policy Clinic (4-0-4). Prerequisite: PAD 670. Provides an opportunity for students to work on legal and public policy issues under the supervision of Law and Urban Affairs faculty. Clients include state and local governments, citizens' groups, and nonprofit agencies who come to the clinic for analysis of and proposed solutions to a variety of critical government and social issues.

**PAD 690** Internship (3-0-3). Intended for students without previous administrative experience. The internship requires 300 hours of supervised activity.

**PAD 693** Special Topics in Public Administration (4-0-4). Special offerings varying with faculty expertise and student interest. Typical subjects include Affirmative Action in the Public Sector, Women as Leaders, etc. Specific topics listed in the Course Schedule.

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PAD 697 Readings in Public Administration (variable credit).

**PAD 698 Research in Public Administration (4-0-4).** Master's-level research on an approved topic pursued and reported under the direction of a faculty member; research requires the application of rigorous analysis to some substantive problem in public administration. Offered every semester.

**PSC 596** Individual Research (one to four credits). Prerequisite: Permission of instructor. Offered every semester.

**PSC 601** Research Methods and Statistics (4-0-4). Study of the logic of scientific inquiry, the design and execution of research projects, and the analysis and interpretation of findings.

**PSC 605 Public Administration and the Political Process (4-0-4).** Political factors that condition the structure and functions of public agencies, including

the public interest, agency constituencies, and political influence.

**PSC 612** Urban Political Processes (4-0-4). Study of the interrelated nature of urban social systems and interaction of units constituting the metropolitan polity.

**PSC 635 Public Sector Management (4-0-4).** Analysis and discussion of public policy management, leadership, and statesmanship.

**PSC 636** Policy Development and Evaluation (4-0-4). Prerequisites: PSC 605 and PAD/PDD/UST 602. Examination of contemporary public policy problems and evaluation of the adequacy of governmental programs designed to deal with them.

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urban affairs:

# urban planning, design, and development





#### urban planning, design, and development courses

#### **Cross-Listed Courses**

Many of the core, track, and elective courses offered in the Levin College are cross-listed in the three master's degree programs (M.S.U.S., M.P.A., and M.U. P.D.D.). Please note that courses with the same title may not be repeated for credit. The exceptions to this rule are PAD/PDD/UST 693, PDD/UST 696, PAD/PDD/UST 697, and PAD 698.

**PDD 501 Fundamentals of Applied Reasoning I (4-0-4).** Prepares students to apply quantitative reasoning in work-setting decisions. The course takes a hands-on approach by using real-life examples to illustrate the use of quantitative tools from algebra, probability, and descriptive statistics in solving concrete problems. Students also acquire computer skills essential for the other quantitative research methods courses and for other courses using computers through hands-on instruction of mathematical and statistical packages (such as Mathcad and SPSS) in the Urban Affairs Computer Lab. Highly recommended as preparation for PDD 601. Cross-listed with PAD 501 and UST 501.

PDD 503 Cartography and Graphics (4-0-4). The principles of map making and the use of presentation graphics in urban planning and research applications. The use of maps and graphics in the analysis of social, economic, and demographic patterns and associations. Hands-on experience with computers and graphic information systems technology. Cross-listed with PAD 503 and UST 503.

**PDD 512 Managing Urban Diversity** (**4-0-4**). Study of diversity including circumstances faced in urban settings that are exacerbated or affected by diversity factors; exploration of a range of social, political, and economic issues related to diversity. Cross-listed with PAD 512 and UST 512.

**PDD 550** Environment and Human Affairs (4-0-4). Challenges to decision makers in environmental policy making; strategies appropriate to various decision situations; analysis of decision making; negotiation and mediation

techniques. Cross-listed with UST 550.

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#### PDD 551 Environmental Finance and Capital Budgeting (4-0-4).

Introductory course in natural resource economics theory, financial decision-making processes, and public policy relevant to environmental protection, urban sustainability, and natural resource development and management. Examination of issues and methods of financing environmental projects. Focus on the application of theory to practice in state and local governments. Crosslisted with UST 651/751.

**PDD 552** Environmental Policy and Administration (4-0-4). A comprehensive, interdisciplinary introduction to the values, preferences, and economic interests that underlie the formulation of environmental policy. Local, regional, state, national, and global issues are examined and characterized with emphasis on the national and state levels. Air pollution, water pollution, and land pollution (brownfields) are addressed. Cross-listed with UST 652/752.

PDD 553 Environmental Planning I (4-0-4). Introduction to planning for environmentally sustainable cities and regions. Topics include the values embodied in, and development of, environmental planning as a field of planning; processes that generate the physical landscape (focusing on land processes, water resources, and vegetation); and the impacts of human settlements on the landscape. Local, state, and federal laws and regulations relevant to land use and resource protection are featured. Students become familiar with planning methods and their use. Cross-listed with ENV 553 and UST 553.

**PDD 563 Housing Analysis (4-0-4).** Housing analysis is explored from a regional perspective within a framework of supply, demand, and population movement. Changes produced in neighborhoods and communities as a result of regional housing dynamics are considered, as are the impacts that public policies have on regional housing dynamics and community change. Crosslisted with UST 563.

**PDD 572** Conflict Management (4-0-4). Examines conflict as an omnipresent component of any decision-making environment. Offers tools for understanding the nature of conflict; devising individual and group strategies that minimize the destructive consequences of conflict; and identifying solutions that are satisfactory to all involved. Includes lectures, discussions, and simulation games. Cross-listed with UST 572.

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**PDD 574 Washington Seminar (4-0-4).** On-site study of federal urban policy issues. One intensive week in Washington, D.C., exposes students to

critical analysis of the federal budget and legislative process, intergovernmental relations problems, and current urban policy issues; preparatory and follow-up sessions required.

**PDD 575** Canadian Studies (4-0-4). Comparative study of selected U.S. and Canadian urban issues, such as housing, urban planning, and historic preservation. Cross-listed with UST 575.

**PDD 576 Historic Preservation (4-0-4).** The roots of the preservation movement in America and its historical antecedents. Preservation policies at the federal, state, and local levels. Preservation planning tools used in Cleveland and other American cities. Cross-listed with UST 576.

**PDD 577 Regional Issues (4-0-4).** The course provides an overview of the phenomenon of suburban real estate development, sprawl, and out migration, and involves students in discussion with officials and specialists who represent various perspectives on the subject. Cross-listed with UST 577.

**PDD 578** Sacred Landmarks (4-0-4). Exposes students to urban art, culture, history, and ethnicity attributed to Cleveland's sacred landmarks. Students examine sacred landmark preservation efforts in Cleveland, in other American cities, and in cities worldwide. Cross-listed with UST 578.

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**PDD 594** Levin Chair Seminar (4-0-4). In-depth study of urban policy issues selected by the Albert A. and Maxine Goodman Levin Professor of Urban Studies and Public Service. Cross-listed with PAD 594 and UST 594.

PDD 601 Applied Quantitative Reasoning I (4-0-4). Prepares students to apply quantitative reasoning to public administration, planning, and policy design decisions. This course presents the logic of quantitative analysis. Introduction to basic techniques for data description and presentation to lay audiences using computer technology, including spreadsheets, presentation packages, and the Internet; and using a computer package for statistical decisions in the context of public administration and planning. Students learn to identify problems that lend themselves to quantitative analysis; ask questions that can be answered through quantitative reasoning; formulate hypotheses and identify the means to test them; carry out analyses and explorations, understand the meaning of results, and reapply results to the initial or similar problems; present and clarify results for specified audiences; evaluate results of quantitative analyses carried out and reported by others; and apply the new knowledge to decision making. Cross-listed with PAD 601 and UST 601.

**PDD 602 Applied Quantitative Reasoning II (4-0-4).** Prerequisite: PDD 601 or permission of instructor. This course covers the logic of empirical inquiry and the design of research to solve specific urban problems. Among the topics covered are experimental designs, quasi-experimental designs,

measurement, validity, reliability, survey design and analysis, performance measurement, program evaluation, and the ethics of the research process. Students develop an executable research design as a product of the course. Cross-listed with PAD 602 and UST 602.

**PDD 603 Public Finance and Economics (4-0-4).** Topics include the role of markets and government, criteria for resource allocation, budgeting, benefit analysis, and government finance. Cross-listed with PAD 603 and UST 603.

**PDD 605 Urban Spatial Structures (4-0-4).** The manner in which people and places interact in labor, housing, and product markets to produce the urban outcome: cities, housing, employment, and wealth. Cross-listed with PAD 605 and UST 605.

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**PDD 606** Evolution of Human Settlements (4-0-4). Examination of the history of human settlements and major intellectual traditions focusing on urbanism, especially the city. These traditions span disciplines from history to sociology. Many of the theorists are themselves interdisciplinary. Cross-listed with UST 606.

**PDD 607 Introduction to Urban Planning (4-0-4).** The nature of physical planning and its relation to social and economic planning; steps in the planning process; levels of planning; preparation and criticisms of plans and planning studies. Cross-listed with UST 607.

**PDD 608 Urban Design Seminar (4-0-4).** Private land development processes in American cities; governmental incentives to private development; the actors in the development process; market research, feasibility, and cash flow analysis. Cross-listed with UST 608.

**PDD 609 Planning Law (4-0-4).** Introduction to the fundamentals of urban planning law. Selected topics are emphasized in such areas as land-use controls, housing, and community development. Cross-listed with UST 609.

**PDD 610 Urban Development Process/Market Analysis (4-0-4).** Provides an overview of the planning/development process and obstacles encountered in the initiation of urban real estate projects. Provides a methodology for analyzing the commercial, industrial, and residential market redevelopment potential for vacant or underutilized urban property. Cross-listed with UST 610.

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**PDD 611** Capstone Studio (4-0-4). This final semester studio course is the culmination of the M.U.P.D.D. program. Students adopt a client and conduct various studies on a wide range of planning topics, including planning process,

economic design, financial market, statistical project management, and environmental aspects. Course concludes with a presentation to clients and the community.

**PDD 612 Urban Political Processes (4-0-4).** Governmental structure, processes, and problems arising from physical and social structures of contemporary urban areas; examination of emerging political forces and changing governmental institutions. Cross-listed with PSC 612 and UST 612.

PDD 615 Economic Development and Budgetary Policy (4-0-4). An overview of national economic policy development, implementation, and impacts. Current issues in political economy and their impact on American national and sub-national governments, including the concept of wealth creation and its manifestations. Concepts are linked to the economic development process at sub-national levels of government; how economic development strategies link to wealth creation in the private and public sectors. Cross-listed with UST 615.

**PDD 616** Systems and Processes of Policy Development (4-0-4). Methods used by policy makers and their staffs in formulating policy instruments; the objectives policy makers seek to accomplish; how they search for alternative ways of achieving objectives; and the implications of their choices. Areas of emphasis include distributional and spill-over effects of policy, and the political and organizational problems associated with the acceptance and implementation of policy. Cross-listed with UST 616.

#### PDD 620 Economic Development: Plans and Strategies (4-0-4).

Examination of the techniques utilized in developing plans for overall economic growth and development with an emphasis on the industrial sector; actual experience in formulating and testing plans and development strategies. Requires a comprehensive regional analysis. Cross-listed with PAD 620 and UST 620.

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**PDD 621** Local Labor Market Analysis (4-0-4). Prerequisites: PDD 601, PDD 603, and knowledge of Excel or other spreadsheet program. The relationship between the functioning of national, regional, and urban labor markets, earnings distribution, and poverty; review of the theory of labor markets and the impact of unions on wage setting and employment. Crosslisted with PAD 621 and UST 621.

**PDD 622 Economic Development Policy (4-0-4).** Examination of the international and national competitive positions of industry; state and national industrial policy proposals; approaches to economic development and industrial policy. Cross-listed with PAD 622 and UST 622.

PDD 623 Urban Development Finance and Applied Project (4-0-4).

Prerequisites: PDD 603 and PDD 610. Financing, deal structuring, and analysis of public subsidy for urban real estate projects using discounted cash flow analysis. Also includes preparation of a comprehensive report and presentation of an urban real estate project. Cross-listed with PAD 623 and UST 623.

**PDD 624** Anti-Poverty Policy (4-0-4). Prerequisites: PDD 603 or equivalent and PDD 621. Examines the historical development of anti-poverty policy and the economic effectiveness of various welfare reform efforts. Looks at anti-poverty efforts from the perspective of national macroeconomic policy and national programs, moves to state-based efforts, and concludes with community development perspectives on asset accumulation for low-income families. Cross-listed with PAD 624 and UST 624.

**PDD 625** Strategic Thinking (4-0-4). The theory and practice of strategic thinking for planning and management in the public and nonprofit sectors; concepts and procedures that assist planners and managers in coping with uncertainty; development of analytical skills and techniques. Cross-listed with PAD 625 and UST 625.

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**PDD 626** Workforce Development (4-0-4). Prerequisite: PDD 603 or equivalent. Workforce development takes place on both the supply and demand sides of the labor market. The demand side deals with the expressed needs of employers for specific skill types. The supply side is divided into efforts to upgrade the skills of incumbent workers and to inculcate marketable skills to new workers. A practical examination of the state of the art in workforce development strategies, policies, and programs. Cross-listed with UST 626.

**PDD 627 Urban Tourism, the Urban Core, and Economic Development** (4-0-4). Explores the global interest in utilizing aspects of culture and the entertainment and hospitality industries to revitalize urban areas and enhance urban life. Assesses the importance of sports, culture, and the entertainment and hospitality industries to society; the ability of cities and their leaders to control economic development; different tourism, hospitality, and entertainment strategies for development; evaluates the social and economic development benefits of amenities; review of experiences with entertainment for redevelopment.

**PDD 633 Budgetary Policy (4-0-4).** The importance of municipal budgeting and finance to public policy makers and public administrators. Sources of city finance information; examination of the revenue, expenditure, and debt structure of American cities. Budgetary processes, formats, and accounting systems. Cross-listed with PAD 633 and UST 633.

**PDD 640 Public Works Management I (4-0-4).** An introductory seminar in the management of public works functions and personnel in local and regional government. The history of the public works profession; contemporary public

works functions, practices, and issues. Special problems in financing and maintaining capital stock and managing public works personnel. Cross-listed with PAD 640.

**PDD 641 Public Works and Urban Service Delivery (4-0-4).** The conceptual issues public managers face when making decisions about the delivery of local services. The delivery of specific public works services and the special problems encountered by local service administrators. A variety of techniques for assessing the effectiveness of urban services. Cross-listed with PAD 641.

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PDD 642 Introduction to Geographic Information Systems (4-0-4).

Prerequisite: PDD 501 or permission of instructor. Principles of Geographic Information Systems (GIS) as a computer tool to provide spatial information

analysis. Laboratory instruction in the use of GIS software to aid in the analysis of workplace problem situations. Cross-listed with PAD 642 and UST 642.

**PDD 643** Advanced GIS (4-0-4). Prerequisites: UST 434 and PDD 642 or equivalent. This course teaches students how to develop and implement various GIS applications such as network analysis, polygon overlay, and surface modeling. Students use advanced GIS software tools in completing computer-based analytical exercises. Cross-listed with PAD 643 and UST 643.

**PDD 644 GIS Capstone Seminar (4-0-4).** Provides an overview of current issues in GIS. Students review and discuss their GIS projects/research in the context of these issues. Students review both the technical/practical issues encountered as well as the conceptual implications of their project. The purposes of the course are to offer graduating students the opportunity to reflect on the skills learned during their GIS projects and to provide an overview of ongoing development in the field. Cross-listed with PAD 644 and UST 644.

**PDD 645 Public Works Management II (4-0-4).** Prerequisite: PDD 641. Capstone course providing an intensive investigation of management technique and professional specialization in a number of public works fields, such as transportation, building and grounds, water resources, equipment services, municipal engineering, solid wastes, utility location, and coordination. Students gain hands-on access to professionals and physical plants. Cross-listed with PAD 645.

**PDD 653** Environmental Planning II (4-0-4). Prerequisite: PDD 553 or permission of the instructor. An advanced course designed for students with knowledge of ecological processes or relevant environmental fields. The course features regional ecological infrastructure and landscape scale. Typical topics include watershed management, land-use change and ecological impacts, and regional open space and habitat preservation. The course provides an

opportunity to apply planning processes and techniques such as suitability analysis, GIS mapping, risk assessment, or environmental impact assessment through a project exercise. Cross-listed with UST 653/753.

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**PDD 660 Neighborhood Planning (4-0-4).** The process and techniques for the creation and implementation of neighborhood development plans with an emphasis on Cleveland neighborhoods, neighborhood organizations, and neighborhood planning. An introduction to the local government organizations and private institutions that support neighborhood planning, and federal, state, and local programs that fund neighborhood planning and development programs. Students participate in field research on a selected neighborhood project. Cross-listed with UST 660.

**PDD 661** Legal Developments in Housing (4-0-4). Analysis of the evolution of housing and community development legislation, programs, and policies in metropolitan America, with emphasis on special topics. Cross-listed with UST 661.

**PDD 662 Urban Housing Policy (4-0-4).** Focuses on the evolution of urban housing policy, the policies that shape the existing housing system, and proposals for modifying housing policy and programs. Housing policy developments are related to broad ideological and political changes since the 1960s. Considers the major aspects of the current housing situation, including financing, production, affordability, preservation, and discrimination. Crosslisted with UST 662.

**PDD 664** Neighborhood Development (4-0-4). Analysis of community organizations at the neighborhood, community, and national levels; problems and concepts of community organization; models of social action and issues facing organizations. Cross-listed with UST 664.

**PDD 671** Advanced Urban Design (4-0-4). Prerequisite: PDD 608 or permission of instructor. Combines lectures, group discussions, and individual critiques by faculty and visiting professionals to emphasize the non-formalistic aspects of urban design. Emphasizes design methods and graphic illustration techniques for non-designers. A design project is developed in a studio context.

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**PDD 674** Central City Planning (4-0-4). Provides students with a deeper understanding of change, decline, and revitalization efforts as critical central city issues. Students have the opportunity to critically assess a number of city and CBD recovery strategies and to develop their own ideas about appropriate ways to improve the condition of older cities.

PDD 690 Urban Internship (variable credit).

PDD 693 Special Topics in Urban Planning, Design, and Development (4-0-4). Special offerings varying with faculty expertise and student interest. Specific topics are listed in the Course Schedule.

PDD 696 Individual Research (variable credit).

PDD 697 Readings in Urban Problems (variable credit).

PDD 698 Exit Project (four credits).

PDD 699 Master's Thesis (four credits).

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## m.s. in urban studies





#### master of science in urban studies courses

#### **Cross-Listed Courses**

Many of the core, track, and elective courses offered in the Levin College are cross-listed in the three master's degree programs (M.S.U.S., M.P.A., and M.U. P.D.D.). Please note that courses with the same title may not be repeated for credit. The exceptions to this rule are: PAD/PDD/UST 693, PDD/UST 696, PAD/PDD/UST 697, and PAD 698.

**UST 501 Fundamentals of Applied Reasoning (4-0-4).** Prepares students to apply quantitative reasoning in work-setting decisions. The course takes a hands-on approach by using real-life examples to illustrate the use of quantitative tools from algebra, probability, and descriptive statistics in solving concrete problems. Students also acquire computer skills essential for the other quantitative research methods courses and for other courses using computers through hands-on instruction of mathematical and statistical packages (such as Mathcad and SPSS) in the Urban Affairs Computer Lab. Highly recommended as preparation for UST 601. Cross-listed with PAD 501 and PDD 501.

**UST 503** Cartography and Graphics (4-0-4). The principles of map making and the use of presentation graphics in urban planning and research applications. The use of maps and graphics in the analysis of social, economic, and demographic patterns and associations. Hands-on experience with computers and graphic information systems technology. Cross-listed with PAD 503 and PDD 503.

#### **UST 510** Proposal Writing and Program Development (4-0-4).

Examination of the structure and content of proposals, sources of funding, foundation decision making, program evaluation, and social/institutional change in the urban environment. Students gain experience through independent preparation of a proposal and application of evaluation procedures. Crosslisted with PAD 510.

**UST 512 Managing Urban Diversity (4-0-4).** Study of diversity including circumstances faced in urban settings that are exacerbated or affected by diversity factors; exploration of a range of social, political, and economic

issues related to diversity. Cross-listed with PAD 512 and PDD 512.

**UST 521 Urban Economics (4-0-4).** Prerequisites: Two courses in economic principles. Location of economic activity; urban growth and income analysis; urban income inequality and stability; local business cycles; urban public economy and its problems; current urban issues; housing and land-use patterns, traffic congestion, poverty, crime, etc. Cross-listed with ECN 470 and PAD 521.

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**UST 550** Environment and Human Affairs (4-0-4). Challenges to decision makers in environmental policy making; strategies appro-priate to various decision situations; analysis of decision making; negotiation and mediation techniques. Cross-listed with PDD 550.

**UST 553** Environmental Planning I (4-0-4). Introduction to planning for environmentally sustainable cities and regions. Topics include the values embodied in, and development of, environmental planning as a field of planning; processes that generate the physical landscape (focusing on land processes, water resources, and vegetation); and the impacts of human settlements on the landscape. Local, state, and federal laws and regulations relevant to land use and resource protection are featured. Students become familiar with planning methods and their use. Cross-listed with ENV 553 and PDD 553.

**UST 563 Housing Analysis (4-0-4).** Housing analysis is explored from a regional perspective within a framework of supply, demand, and population movement. Changes produced in neighborhoods and communities as a result of regional housing dynamics are considered, as are the impacts that public policies have on regional housing dynamics and community change. Crosslisted with PDD 563.

**UST 572 Conflict Management (4-0-4).** Examines conflict as an omnipresent component of any decision-making environment. Offers tools for understanding the nature of conflict; devising individual and group strategies that minimize the destructive consequences of conflict; and identifying solutions that are satisfactory to all involved. Includes lectures, discussions, and simulation games. Cross-listed with PDD 572.

**UST 573 Columbus Seminar (4-0-4).** Intensive one-week experience in Columbus, Ohio. Examination of the state policy-making, legislative, and judicial processes. Cross-listed with PAD 573.

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**UST 574 Washington Seminar (4-0-4).** On-site study of federal urban-policy issues. One intensive week in Washington, D.C., exposes students to

critical analysis of the federal budget and legislative process, intergovernmental relations problems, and current urban-policy issues; preparatory and follow-up sessions required. Cross-listed with PAD 574.

**UST 575 Canadian Studies (4-0-4).** Comparative study of selected U.S. and Canadian urban issues, such as housing, urban planning, and historic preservation. Topics will be listed in the Course Schedule. Cross-listed with PDD 575.

**UST 576 Historic Preservation (4-0-4).** The roots of the preservation movement in America and its historical antecedents. Preservation policies at the federal, state, and local levels. Preservation planning tools used in Cleveland and other American cities. Cross-listed with PDD 576.

**UST 577 Regional Issues (4-0-4).** The course provides an overview of the phenomenon of suburban real estate development, sprawl and out-migration, and involves students in discussion with officials and specialists who represent various perspectives on the subject. Cross-listed with PDD 577.

**UST 578** Sacred Landmarks (4-0-4). Exposes students to urban art, culture, history, and ethnicity attributed to Cleveland's sacred landmarks. Students examine sacred landmark preservation efforts in Cleveland, in other American cities, and in cities worldwide. Cross-listed with PDD 578.

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**UST 594 Levin Chair Seminar (4-0-4).** In-depth study of urban policy issues selected by the Albert A. Levin Professor of Urban Studies and Public Service. Cross-listed with PAD 594 and PDD 594.

**UST 595 Environmental Seminar (1-0-1).** Provides students with experience and instruction on presentation methods and oral communication of scientific information focused on interdisciplinary environmental issues. The course includes guest speakers from various environmental fields, and focuses on career opportunities, as well as the skills and tools needed to succeed as an environmental professional. Students present their research plans during this course.

**UST 601 Applied Quantitative Reasoning I (4-0-4).** Prepares students to apply quantitative reasoning to public administration, planning, and policy design decisions. This course presents the logic of quantitative analysis. Introduction to basic techniques for data description and presentation to lay audiences using computer technology, including spreadsheets, presentation packages, and the Internet; and using a computer package for statistical decisions in the context of public administration and planning. Students learn to identify problems that lend themselves to quantitative analysis; ask questions that can be answered through quantitative reasoning; formulate hypotheses and identify the means to test them; carry out analyses and explorations, understand

the meaning of results, and reapply results to the initial or similar problems; present and clarify results for specified audiences; evaluate results of quantitative analyses carried out and reported by others; and apply the new knowledge to decision making. Cross-listed with PAD 601 and PDD 601.

**UST 602 Applied Quantitative Reasoning II (4-0-4).** Prerequisite: UST 601 or permission of instructor. This course covers the logic of empirical inquiry and the design of research to solve specific urban problems. Among the topics covered are experimental designs, quasi-experimental designs, measurement, validity, reliability, survey design and analysis, performance measurement, program evaluation, and the ethics of the research process. Students develop an executable research design as a product of the course. Cross-listed with PAD 602 and PDD 602.

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**UST 603 Public Finance and Economics (4-0-4).** Application of microeconomic analysis to public policy issues; study of selected concepts and issues within the public sector. Cross-listed with PAD 603 and PDD 603.

**UST 605 Urban Spatial Structures (4-0-4).** The manner in which people and places interact in labor, housing, and product markets to produce the urban outcome: cities, housing, employment, and wealth. Cross-listed with PAD 605 and PDD 605.

**UST 606** Evolution of Human Settlements (4-0-4). An examination of the history of human settlements and the major intellectual traditions focusing on urbanism, especially the city. These traditions span a variety of disciplines from history to sociology. Many of the theorists are themselves interdisciplinary. Cross-listed with PDD 606.

**UST 607 Introduction to Urban Planning (4-0-4).** The nature of physical planning and its relation to social and economic planning; steps in the planning process; levels of planning; preparation and criticisms of plans and planning studies. Cross-listed with PDD 607.

**UST 608 Urban Design Seminar (4-0-4).** Private land development processes in American cities; governmental incentives to private development, the actors in the development process; market research, feasibility, and cash flow analysis. Cross-listed with PDD 608.

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**UST 609 Planning Law (4-0-4).** An introduction to the fundamentals of urban planning law. Selected topics will be emphasized in such areas as landuse controls, housing, and community development. Cross-listed with PDD 609.

**UST 610 Urban Development Process/Market Analysis (4-0-4).** Provides an overview of the planning/development process and obstacles encountered in the initiation of urban real estate projects. Provides a methodology for analyzing the commercial, industrial and residential market redevelopment potential for vacant or underutilized urban property. Cross-listed with PDD 610.

**UST 612 Urban Political Processes (4-0-4).** Governmental structure, processes, and problems arising from physical and social structures of contemporary urban areas; examination of emerging political forces and changing governmental institutions. Cross-listed with PDD 612 and PSC 612.

**UST 614/714** The Future of Urban Children (4-0-4). An examination of trends in the well-being of urban children and youth and the major factors influencing their growth and development. These factors include families and community structures and processes, socioeconomic status, education, health, delinquency, violence, and selected social policies.

UST 615 Economic Development and Budgetary Policy (4-0-4). An overview of national economic policy development, implementation, and impacts. Current issues in political economy and their impact on American national and sub-national governments, including the concept of wealth creation and its manifestations. Concepts are linked to the economic development process at sub-national levels of government; how economic development strategies link to wealth creation in the private and public sectors. Cross-listed with PDD 616.

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UST 616/716 Systems and Processes of Policy Development (4-0-4). Study of methods used by policy makers and their staffs in formulating policy instruments; the objectives policy makers seek to accomplish; how they search for alternative ways of achieving objectives; and the implications of their choices. Areas of emphasis include distributional and spill-over effects of policy, and the political and organizational problems associated with the acceptance and implementation of policy. Cross-listed with PDD 616.

UST 620 Economic Development: Plans and Strategies (4-0-4). Examination of the techniques utilized in developing plans for overall

economic growth and development with an emphasis on the industrial sector; actual experience in formulating and testing plans and development strategies. Requires comprehensive regional analysis. Cross-listed with PAD 620 and PDD 620.

UST 621 Local Labor Market Analysis (4-0-4). Prerequisites. UST 601, UST 603, and knowledge of Excel or other spreadsheet program. The relationship between the functioning of national, regional, and urban labor markets, earnings distribution, and poverty; review of the theory of labor markets and the impact of unions on wage setting and employment. Cross-

listed with PAD 621 and PDD 621.

UST 622/722 Economic Development Policy (4-0-4). An examination of the international and national competitive positions of industry; state and national industrial policy proposals; various approaches to economic development and industrial policy. Cross-listed with PAD 622 and PDD 622.

#### UST 623 Urban Development Finance and Applied Project (4-0-4).

Prerequisites. UST 603 and UST 610. Financing, deal structuring, and analysis of public subsidy for urban real estate projects using discounted cash flow analysis. Also includes preparation of a comprehensive report and the presentation of an urban real estate project. Cross-listed with PAD 623 and PDD 623.

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**UST 624 Anti-Poverty Policy (4-0-4).** Prerequisites: UST 603 or equivalent and UST 621. Examines the historical development of anti-poverty policy and the economic effectiveness of various welfare reform efforts. Looks at anti-poverty efforts from the perspective of national macroeconomic policy and national programs, moves to state-based efforts, and concludes with community development perspectives on asset accumulation for low-income families. Cross-listed with PAD 624 and PDD 624.

**UST 625/725 Strategic Thinking (4-0-4).** The theory and practice of strategic thinking for planning and management in the public and nonprofit sectors; concepts and procedures that assist planners and managers in coping with uncertainty; development of analytical skills and techniques. Cross-listed with PAD 625 and PDD 625.

**UST 626 Workforce Development (4-0-4).** Prerequisite. UST 603 or equivalent. Workforce development takes place on both the supply and demand sides of the labor market. The demand side deals with the expressed needs of employers for specific skill types. The supply side is divided into efforts to upgrade the skills of incumbent workers and to inculcate marketable skills to new workers. A practical examination of the state of the art in workforce development strategies, policies, and programs. Cross-listed with PAD 626 and PDD 626

**UST 627 Urban Tourism, the Urban Core, and Economic Development** (4-0-4). Explores the global interest in utilizing aspects of culture and the entertainment and hospitality industries to revitalize urban areas and enhance urban life. Assesses the importance of sports, culture, and the entertainment and hospitality industries to society; the ability of cities and their leaders to control economic development; different tourism, hospitality, and entertainment strategies for development; evaluates the social and economic development benefits of amenities; review of experiences with entertainment for redevelopment. Cross-listed with PDD 627.

**UST 632** Organizations and Management in the Public Sector (4-0-4).

Traces the history of public management and how this history can be organized to increase the effectiveness of managing public organizations. An overview of management thought, its cultural context, and its "politics." Cross-listed with PAD 632.

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**UST 633 Budgetary Policy (4-0-4).** The importance of municipal budgeting and finance to public policy makers and public administrators. Sources of city finance information; examination of the revenue, expenditure, and debt structure of American cities. Budgetary processes, formats, and accounting systems. Cross-listed with PAD 633 and PDD 633.

**UST 634/734 Ethics in the Public Sector (4-0-4).** Provides students with an understanding of the ethical dimensions of public administration and helps students develop the awareness, skills, and value framework to act ethically in a public or private sector management role. Cross-listed with PAD 634.

**UST 640 Public Works Management I (4-0-4).** An introductory seminar in the management of public works functions and personnel in local and regional government. The history of the public works profession; contemporary public works functions, practices, and issues. Special problems in financing and maintaining capital stock and managing public works personnel. Cross-listed with PAD 640 and PDD 640.

UST 642/742 Introduction to Geographic Information Systems (4-0-4). Prerequisite: UST 501 or permission of instructor. Principles of Geographic Information Systems (GIS) as a computer tool to provide spatial information analysis. Laboratory instruction in the use of GIS software to aid in the analysis of workplace problem situations. Cross-listed with PAD 642 and PDD 642.

UST 643/743 Advanced GIS (4-0-4). Prerequisites: UST 434 and UST 642 or equivalent. This course teaches students how to develop and implement various GIS applications such as network analysis, polygon overlay, and surface modeling. Students use advanced GIS software tools in completing computer-based analytical exercises. Cross-listed with PAD 643 and PDD 643.

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**UST 644 GIS Capstone Seminar (4-0-4).** Provides an overview of current issues in GIS. Students review and discuss their GIS projects/research in the context of these issues. Students review both the technical/practical issues encountered as well as the conceptual implications of their projects. The course offers graduate students the opportunity to reflect on the skills learned during their GIS projects and provides an overview of ongoing development in the field. Cross-listed with PAD 644 and PDD 644.

#### UST 651/751 Environmental Finance and Capital Budgeting (4-0-4).

Introductory course in natural-resource economics theory, financial decision-making processes, and public policy relevant to environmental protection, urban sustainability, and natural-resource development and management. Examination of issues and methods of financing environmental projects. Focus on the application of theory to practice in state and local governments. Crosslisted with PDD 551.

UST 652/752 Environmental Policy and Administration (4-0-4). A comprehensive, interdisciplinary introduction to the values, preferences, and economic interests that underlie the formulation of environmental policy. Local, regional, state, national, and global issues are examined and characterized with emphasis on the national and state levels. Cross-listed with PDD 552.

**UST 653/753** Environmental Planning II (4-0-4). Prerequisite: UST 553 or permission of the instructor. An advanced course designed for students with knowledge of ecological processes or relevant environmental fields. The course features regional ecological infrastructure and landscape scale. Typical topics include watershed management, land-use change and ecological impacts, and regional open space and habitat preservation. The course provides an opportunity to apply planning processes and techniques such as suitability analysis, GIS mapping, risk assessment, or environmental impact assessment through a project exercise. Cross-listed with PDD 653.

#### UST 654/754 Environmental Institutions and Administration (4-0-4).

This course is an interdisciplinary introduction to the institutions and processes of public policy implementation for environmental issues. This class discusses the major government groups and organizations central to environmental policy-making and administration, including Congress, congressional environmental committees, the executive branch, and the judiciary. The roles of bureaus critical to the implementation of environmental policy including the Environmental Protection Agency, the Forest Service, the Bureau of Land Management, and the Department of Energy are explored. Rulemaking, intergovernmental relations, and trans-border issues are emphasized.

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UST 655/755 Environmental Risk and Decision Making (4-0-4). This course surveys the fundamental concepts involved in environmental risk evaluation and risk-based decision making. Topics may include risk assessment, risk management strategies, modeling, catastrophes, uncertainty, and risk perception. Issues arising from differences in expert and lay cognitive frameworks in the use of science for decision making are highlighted. The course also covers the psychological, economic, political, ethical, and legal ramifications of risk-based policy and administrative decision making.

**UST 660/760 Neighborhood Planning (4-0-4).** The process and techniques for the creation and implementation of neighborhood development plans with an emphasis on Cleveland neighborhoods, neighborhood organizations, and neighborhood planning. An introduction to the local government organizations and private institutions that support neighborhood planning and federal, state, and local programs that fund neighborhood planning and development programs. Students participate in field research on a selected neighborhood project. Cross-listed with PDD 660.

**UST 661/761 Legal Developments in Housing (4-0-4).** Analysis of the evolution of housing and community development legislation, programs, and policies in metropolitan America, with emphasis on special topics. Cross-listed with PDD 661.

**UST 662/762 Urban Housing Policy (4-0-4).** Focuses on the evolution of urban housing policy, the policies which shape the existing housing system, and proposals for modifying housing policy and programs. Housing policy developments are related to broad ideological and political changes since the 1960s. Considers major aspects of the current housing situation, including financing, production, affordability, preservation, and discrimination. Crosslisted with PDD 662.

**UST 664** Neighborhood Development (4-0-4). Analysis of community organizations at the neighborhood, community, and national levels; problems and concepts of community organization; models of social action and issues facing organizations. Cross-listed with PDD 664.

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**UST 670 Introduction to Law and Public Policy (4-0-4).** Introduces the basic structures of the American legal system and how that system interacts with such other disciplines as planning, policy analysis, and public administration in the creation of public policy. First course of a two-course sequence, with UST 683. Cross-listed with PAD 670.

**UST 683** Law and Public Policy Clinic (4-0-4). Prerequisite: UST 670. Provides an opportunity for students to work on legal and public policy issues under the supervision of Law and Urban Affairs faculty. Clients include state and local governments, citizens' groups, and nonprofit agencies who come to the clinic for analysis of and proposed solutions to a variety of critical government and social issues. Cross-listed with PAD 683.

UST 690 Urban Internship (variable credit)..

**UST 693** Special Topics in Urban Studies (4-0-4). Special offerings varying with faculty expertise and student interest. Typical subjects include Affirmative Action in the Public Sector, Public Personnel Management, Women as Leaders, etc. Specific topics listed in the Course Schedule.

UST 696 Individual Research (variable credit).

UST 697 Readings in Urban Problems (variable credit).

UST 698 Exit Project (variable credit).

UST 699 Master's Thesis (variable credit).

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#### **Urban Studies - Environmental Science Courses**

See the Master of Science in Environmental Science section of this Catalog for course descriptions.

EVS 506 Ecosystem Science

EVS 523 Map Interpretation and the Visualization of Space

EVS 560 Urban Geomorphology

EVS 593 or EVS 594 Special Topics in Environmental Science

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business administration

education

engineering

health professions

natural sciences

social and behavioral

sciences

urban affairs

CERTIFICATE AREAS

ADDENDA

urban affairs:

# ph.d. in urban studies and public affairs





doctor of philosophy in urban studies and public affairs - courses -

**UST 800 and UST 801 Urban Theory I and II (4-0-4).** A two-semester sequence intended to acquaint students with the approaches used by the social sciences in examining urban problems. Faculty from the fields of political science, public administration, economics, sociology, and planning participate jointly in presenting and discussing their diverse conceptual and research approaches to the analysis of urban problems.

**UST 802 Logic of Inquiry (4-0-4).** Doctoral-level seminar focusing on the paradigmatic (metatheoretical assumptions of Public Administration theorists). The course examines classifications of such assumptions and their implications for the conduct of research and the structure of findings. Different schools of thought in public administration are examined paradigmatically.

**UST 803 Quantitative Research Methods I (4-0-4).** This course examines statistical models designed to assess a single outcome or criterion variable: bivariate and multiple regression; N-Way and factorial ANOVA; repeated measures ANOVA; and analysis of covariance of the General Linear Model. The course examines the analysis and interpretation of a variety of data sets using each of these procedures.

**UST 804 Quantitative Research Methods II (4-0-4).** This course focuses on statistical models that assess multiple outcome or criterion measures; multivariate multiple regres-sion; and multivariate analysis of variance (MANOVA). In addition, a section of the course explores the internal structure of data with procedures such as factor analysis, cluster analysis, and multidimensional scaling.

**UST 805** Qualitative Research Methods in Urban Studies (4-0-4). In this survey course, students examine various qualitative research techniques accompanied by examples of their application in papers published in professional journals. Students design and present a project applying one of the qualitative methods studied or proposing a new approach.

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**UST 806** Research Methods in Urban Studies (4-0-4). Provides a basic understanding of methods for conducting empirical social science research. Covers the process of social science research, the conduct of the enterprise, obstacles to empirical research, analysis and interpretation of data, and ethical issues in social science research.

**UST 810** Economic Development Seminar (4-0-4). The empirical and theoretical field of economic development of advanced industrial economies. Review of economic development literature and current practice. Required seminar for major or minor field in Economic Development.

**UST 820** Seminar in Housing Policy and Programs (4-0-4). A review and analysis of federal, state, and local housing policies and programs in the United States since the 1930s. Key policy issues and the economic, political, and social factors which affect policy outcomes. Required seminar for major or minor field in Housing and Neighborhood Development.

**UST 830 Public Administration Seminar (4-0-4).** Explores the literature of public administration. How major pieces of literature relate to the period in which they were written and to the intellectual traditions on which the authors built. Economic, political, and social factors affecting major policy issues. Required seminar for major or minor field in Public Administration/Budgeting.

UST 831 Political Philosophy and Public Administration (4-0-4). This course examines the writings of major political philosophers and the way in which they have helped shape discourse in public administration. It seeks to help students become more aware of the character of the presuppositions regarding the nature of a state, which undergird the writings of various public administration scholars. Ideas regarding the composition, authority, and engagements of government and administration, as well as the rights and obligations of citizens, are discussed drawing on original writings from different schools of philosophy, including rationalism, empiricism, positivism, utilitarianism, romanticism, pragmatism, idealism, analytical philosophy, phenomenology, and existentialism. Students are encouraged to see how these ideas can be discerned in the public administration literature and how they affect the way in which the character and tasks of contemporary public administration are viewed.

#### Return to top

**UST 833 Public Finance Seminar (4-0-4).** Prerequisite: UST 603 or equivalent. This course examines how scholars in public sector economics and budgeting think and write about important ideas in public finance, including the economic role of government in society, efficiency and social equity, public choice in democratic government, budgetary politics and processes, the role of analysis in government decisions, the principles of taxation, and fiscal federalism. Special attention is paid to reading and discussing the classic literature in the field. The philosophical assumptions that undergird this

literature are explored in order to provide a critical appreciation of the way in which public finance scholars view the world, politics, society, and the nature of knowledge. Also, the nature of the activity of research in public finance is examined.

UST 835 Organizational Theory for Public Administration (4-0-4). An intensive review of major milestones in the organizational literature that have influenced public administration theory and practice. Theoretical perspectives include classic-bureaucratic, scientific management, human relations, sociotechnical, leadership, constructionist, and post-modern. Emphasis on developing a critical perspective and understanding the impact and implications of organizational theory for public administration.

**UST 895 Doctoral Research (two to eight credits).** 

**UST 896** Dissertation Prospectus (four credits).

UST 897 Readings in Urban Studies (four credits).

UST 899 Dissertation (four to eight credits).

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# Admissions Future Students

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**Request Information** 

Need Help? 216.687.5411 If you have questions, please complete the <u>reply form</u> and an admissions representative will respond to your questions. To receive additional information about Cleveland State University and our academic offerings, please complete the <u>request information form</u>.

#### **Contact Information**

Cleveland State University Office of Admissions 2121 Euclid Avenue Rhodes West 204 Cleveland, OH 44115

Phone: 216.687.5411 Toll Free: 1.888.CSUOHIO

Fax: 216.687.9210

Email: admissions@csuohio.edu

#### **Office Hours**

Monday through Thursday: 8:00 a.m. - 5:00 p.m.

Friday: 9:00 a.m. - 5:00 p.m. Select Saturdays: 9:30 a.m. - noon

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- Incoming Freshmen
- Transfer Students
- Graduate Students
- Guest Students
- International Students
- Returning Students
- Law Students

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**Majors & Minors** 

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Already know what you want to study? Chances are you will find it at Cleveland State. And if you haven't made up your mind yet, we offer a world of possibilities to explore. You're sure to find the major that suits your interests and talents.

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Letter from the Director of

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**Summer Semester 2008** 

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VikingCard

Need Help? 216.687.5411 Home » Tuition & Fees » Current Costs

#### **Current Costs** 2007-2008 Academic Year



Below are typical costs for <u>undergraduate</u>, <u>graduate</u> and <u>law</u> students. Review the <u>explanation of costs</u> for **per-credit hour fees**, exact fee schedules, allocation of fees, and additional housing and meal plan options. In addition to the fee schedule below, all students are charged a \$25 <u>U-Pass</u> fee except during the summer term. The U-Pass program is not available during the summer term.

Undergraduate Students — Ohio Residents			
Full Time (12-16 credit hours)	Fall	Spring	Academic Year
Tuition (\$330.00 per credit hour)	\$3,960	\$3,960	\$7,920
Room	\$2,600	\$2,600	\$5,200
Board	\$1,449	\$1,449	\$2,898
Books and Supplies (estimated)	\$400	\$400	\$800
Parking	\$141	\$141	\$282
Total	\$8,550	\$8,550	\$17,100

Undergraduate Students — Non-Ohio Residents			
Full Time (12-16 credit hours)	Fall	Spring	Academic Year
Tuition (\$444.30/\$615.75 per credit hour - see explanation)	\$5,332 to \$7,389	\$5,332 to \$7,389	\$10,664 to \$14,778
Room	\$2,600	\$2,600	\$5,200
Board	\$1,449	\$1,449	\$2,898
Books and Supplies (estimated)	\$400	\$400	\$800
Parking	\$141	\$141	\$282
Total	\$9,922 to \$11,979	\$9,922 to \$11,979	\$19,844 to \$23,958

Graduate Students — Ohio Residents			
Full Time (13-16 credit hours)	Fall	Spring	Academic Year
Tuition (\$439.25 per credit hour)	\$5,710	\$5,710	\$11,420
Room	\$2,600	\$2,600	\$5,200
Board	\$1,449	\$1,449	\$2,898
Books and Supplies (estimated)	\$400	\$400	\$800
Parking	\$141	\$141	\$282
Total	\$10,300	\$10,300	\$20,600

Graduate Students — Non-Ohio Residents			
Full Time (13-16 credit hours)	Fall	Spring	Academic Year
Tuition (\$597.25/\$834.25 per credit hour - see explanation)	\$7,764 to \$10,845	\$7,764 to \$10,845	\$15,528 to \$21,690
Room	\$2,600	\$2,600	\$5,200
Board	\$1,449	\$1,449	\$2,898
Books and Supplies (estimated)	\$400	\$400	\$800
Parking	\$141	\$141	\$282
Total	\$12,354 to \$15,435	\$12,354 to \$15,435	\$24,708 to \$30,870

Law Students — Ohio Residents			
Full Time (13-16 credit hours)	Fall	Spring	Academic Year
Tuition (\$633.75 per credit hour)	\$8,239	\$8,239	\$16,478
Room	\$2,600	\$2,600	\$5,200
Board	\$1,449	\$1,449	\$2,898
Books and Supplies (estimated)	\$700	\$700	\$1,400
Parking	\$141	\$141	\$282
Total	\$13,129	\$13,129	\$26,258

Law Students — Non-Ohio Residents			
Full Time (13-16 credit hours)	Fall	Spring	Academic Year
Tuition (\$869.55/\$1,223.25 per credit hour - see explanation)	\$11,304 to \$15,902	\$11,304 to \$15,902	\$22,608 to \$31,804
Room	\$2,600	\$2,600	\$5,200
Board	\$1,449	\$1,449	\$2,898
Books and Supplies (estimated)	\$700	\$700	\$1,400
Parking	\$141	\$141	\$282
Total	\$16,194 to \$20,792	\$16,194 to \$20,792	\$32,388 to \$41,584

### **Explanation of Costs**

#### **Tuition and Fees**

View the <u>Ohio Resident Fee Schedule</u> for details. (<u>Adobe Acrobat Reader</u> required to download files.) The fee schedule is subject to change without notice by the Board of Trustees.

**Note:** As a **continuing Cleveland State student** your tuition may not be reflected in the fee schedules for the current academic year.

#### **Non-Ohio Residents**

Tuition for non-Ohio residents is determined by the number of credits the student is transferring to Cleveland State. View the Non-Ohio Resident Fee Schedule for details.

#### Room

The rate of \$2,500 per semester and \$5,000 for the academic year is for a room with one bed/one bath in Fenn Tower. Other room configurations are available. View room rates and plans for <u>Fenn Tower</u> and <u>Viking Hall</u>.

#### **Board**

The rate of \$1,449 per semester and \$2,898 for the academic year is for the **Block 240** meal plan. The **Block 240** meal plan allows access to 240 meals per semester in Viking Dining Hall or meal equivalents which is approximately 15 meals per week. View meal plan options and plan details.

#### **Books and Supplies**

The cost for books and supplies is estimated. The cost varies by undergraduate major, graduate program, and law program. Visit Cleveland State's bookstore at www.csuohio.edu/bookstore.

#### **Parking**

The parking fee of \$141 per semester or \$282 per academic year is optional but recommended for students consistently parking on campus. For more information on parking, visit <a href="www.csuohio.edu/parking">www.csuohio.edu/parking</a>.

#### **Other Potential Educational Expenses**

Other educational expenses vary per student based on personal situation and lifestyle. These expenses include transportation, loan fees, health insurance, entertainment and personal living expenses.

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**Attention New Borrowers** 

Master Promissory Note.

Perkins Promissory Note.

Before receiving your student loan, you

If you are borrowing from a Federal

If you are borrowing from a Federal Perkins Loan, you must complete the

Stafford Loan, you must complete the

must complete loan entrance counseling.

of Federal Loans



## Financial Aid & Scholarships

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Federal School Code: 003032

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#### **Guide to Financial Aid**

Financial aid is money that is provided to help bridge the gap between your own resources and the amount of money needed to pay the cost of attending college. Approximately 70 percent of Cleveland State's students receive some form of financial assistance. The University participates in or administers all of the major federal and state grant and loan programs. In addition, Cleveland State provides University grants and scholarships.

#### **Apply for Financial Aid**

The first step in the financial aid process is completing the Free

Application for Federal Student Aid (FAFSA). You must file a FAFSA every year in order to receive your financial aid.

#### **Types of Financial Aid**

When you apply for financial aid, you are applying for gift aid (scholarships and grants) and self-help programs (Federal Work-Study and loans).

#### Your Awards

The financial aid award letter explains the types of financial aid and amount of assistance you are expected to receive at Cleveland State for a particular academic year.

#### **Keep Your Financial Aid**

You should plan ahead and be prepared to take the necessary steps needed to meet the requirements in order to keep your financial aid.

#### **Scholarships**

Scholarships do not have to be repaid and are based on many factors, including academic merit and/or financial need.

#### **Student Employment**

Cleveland State's Student Employment Program is administered by the Financial Aid Office. The program is designed to assist matriculating students in financing their education, developing essential job skills and enhancing their University experience.

#### **Other Financial Options**

Additional resources are available to assist you in financing a college education.

#### **Financial Planning**

Cleveland State's Financial Planning Center provides free confidential financial planning services for students and their families. We will also help you plan how to pay costs not covered by financial aid.

#### **Tuition & Fees**

Learn how much it will cost to attend Cleveland State.

#### **Need Help?**

If you're on campus, stop by the Campus411 office, located in University Center, Room 162. Campus411 is our one-stop service center, where specialists are available to assist you with your financial aid questions.

**Phone:** 216.687.5411 Toll-Free: 888.CSU.OHIO Fax: 216.687.9247

E-mail: campus411@csuohio.edu

**Mailing Address:** Financial Aid Office Cleveland State University 2121 Euclid Avenue, KB 1300 Cleveland, Ohio 44115-2214

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**Graduate Students** 

We encourage you to contact us with your questions. If you're on campus, stop by our office.

**Guest Students** 

Office of Undergraduate Admissions

International Students

Office Hours: Monday - Thursday 8:00am-5:00pm, Friday 9:00am - 5:00pm

**Phone:** 216.687.5411

**Returning Students** 

Toll-Free: 1.888.CSUOHIO

**Fax:** 216.687.9210

**Law Students** 

E-mail: admissions@csuohio.edu

**Pre-College Students** 

**Mailing Address:** 

Office of Undergraduate Admissions

Cleveland State University 2121 Euclid Avenue, RW 204 Cleveland, Ohio 44115-2214

**Check Status of** 

**Your Application** 

Office of Graduate Admissions

Office Hours: Monday - Friday 8:00am-5:00pm

**Phone:** 216.687.5599 **Fax:** 216.687.5400

Email: graduate.admissions@csuohio.edu

Need Help? 216.687.5411

**Mailing Address:** 

Office Mailing Address

Office of Graduate Admissions

2121 Euclid Avenue Parker Hannifin Hall, Room 227

Cleveland, OH 44115-2214

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# Cleveland State University

We offer this Web-based application in hopes that it will make our application process as easy and convenient as possible for you. Applications submitted electronically receive the same consideration as applications submitted on paper.

This application is part of the ApplyYourself Application Network. You will receive a PIN and Password so that you can return to work on your application over several sessions. Your information is transmitted through a secured server and is kept confidential until you submit your application. Only after you submit your application will it be available for review by our admissions staff.

When you have completed your application and are ready to submit it, you can pay your application fees via credit card online or you can mail a check or money order to the admissions office. No application will be processed until the application fee is paid.

Please carefully read the instructions that appear throughout the application pages. You can only submit your application one time. If you have updates to any information you have submitted, please notify the admissions office at once.

To get started on your application, create an account to the right. If you already have an ApplyYourself PIN from another school, you can use that same PIN to access our application.

Best of luck. We look forward to reviewing your application.

#### Application System Requirements

- You will need a web browser that has Javascript activated.
- Supported web browsers include <u>Internet Explorer 5</u> and above, <u>Netscape 6</u> and above, <u>Safari</u> (for Macintosh users), and Firefox.
- Do not use AOL's internal browser.
- Pop-up blockers should be disabled.
- You must logout of the online application after each session.

#### **New Account**

- Learn about this application by reading the Notice to Applicants.
- Create your applicant account if you are new to our application and do not already have a PIN by clicking on the "Create Account" button to the right.

#### User Login

Please input your login information below to open your application.

PIN:

Password:

login

Forgot your PIN or Password?

#### Create Account

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# Cleveland State University

We offer this Web-based application in hopes that it will make our application process as easy and convenient as possible for you. You can get started right now and wont have to wait for us to mail you a package. Applications submitted electronically receive the same consideration as applications submitted on paper.

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To get started on your application, create an account to the right. If you have already completed and submitted an online application to Cleveland State University, and you now wish to apply to another program of study, you need to create a new account. Also note that if you already have an ApplyYourself PIN from another school, you can use that same PIN to access our application.

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- Create your applicant account if you are new to our application and do not already have a PIN by clicking on the "Create Account" button to the right.



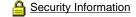
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create account







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#### **Online Application**

For U.S. Citizens, and Permanent Residents of the United States applying for graduate degree, CSU graduate certificate, graduate teaching licensure, and graduate non-degree admission.

#### **Download Graduate Student Application**

For U.S. Citizens and Permanent Residents of the United States, applying for graduate degree, CSU certificate, teaching licensure, or graduate non-degree admission. Fill-out form and fax or mail to Graduate Admissions Office (see bottom of form for details).

#### **Download International Student Application**

For any person who is on, or will be on, any type of visa and desires admission to a graduate degree, CSU graduate certificate, or graduate licensure program. Fill out form and mail with supporting documentation to the Center for International Services and Programs (see form for details).

#### **Download Graduate Student Workshop Application**

For Graduate Students attending graduate workshop course(s). Fill-out form and fax or mail to Graduate Admissions Office (see top of form for details).

#### Mailing Address

Cleveland State University Graduate Admissions 2121 Euclid Avenue Parker Hannifin Hall, 2nd floor Cleveland, OH 44115-2214

#### **Campus Location**

Parker Hannifin Hall, 2nd floor 2258 Euclid Avenue

Phone: 216.687.5599 Fax: 216.687.5400

#### **Graduate Admissions Contact**

Graduate Admissions Office graduate.admissions @csuohio edu

Phone: 216.687.5599

Web Content Contact

Charles Newton grad@csuohio.edu

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\* Email:

Category:

\* Question / Comment:

NOTE: Any individual who is on a non-immigrant visa (student visa), or who will be applying for a non-immigrant visa and is interested in enrolling in a graduate degree, certificate, or licensure program you must Contact the <u>Center for International Services</u> and <u>Programs (CISP)</u>.

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**Mailing Address** 

Cleveland State University Graduate Admissions 2121 Euclid Avenue Parker Hannifin Hall, 2nd floor Cleveland, OH 44115-2214

#### **Campus Location**

Parker Hannifin Hall, 2nd floor 2258 Euclid Avenue

Phone: 216.687.5599 Fax: 216.687.5400

#### **Graduate Admissions Contact**

Graduate Admissions Office graduate.admissions @csuohio.edu

Phone: 216.687.5599

Web Content Contact Charles Newton grad@csuohio.edu Home » Graduate Studies » Graduate Admissions

#### **Graduate Admissions**

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- How can Cleveland State's graduate programs boost your career?
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#### **Campus Location**

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Cleveland State University College of Graduate Studies 2121 Euclid Avenue Parker Hannifin Hall 218 Cleveland, OH 44115-2214

**Campus Location** 

Parker Hannifin Hall, Room 218 2258 Euclid Avenue

Phone: 216.687.9370 Fax: 216.687.9214

Web Content Contact Charles Newton grad@csuohio.edu Home » Graduate Studies » Downloadable Forms

#### **Downloadable Forms**

Click on the form title to open a downloadable/printable version of the form (requires <u>Adobe Acrobat</u> <u>Reader</u>).

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**Web Content Contact** 

Charles Newton grad@csuohio.edu

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# Faculty Profiles College of Graduate Studies





#### **OUR FACULTY**

Graduate faculty status is conveyed on professors whose records of scholarship demonstrate an active agenda of research or creative activities and professional achievements that are at the heart of graduate education.

If you scan the portfolios of graduate faculty identified on this page, you'll find an impressive number of books, peer-reviewed journal articles, and grant-supported projects on topics as varied as the university itself.

Our list of graduate faculty also includes the many professors who have sustained Cleveland State's national ranking as a center for Fulbright Scholars. Students in programs leading to master's and doctorate degrees have the chance to work with many of these leading scholars.

#### **Faculty Profiles**

To learn more about our outstanding faculty, view faculty index by *last name*, *department/school* or *research interest*.

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Hill, Edward	Urban Affairs	Urban Studies
Hill, Susan	Liberal Arts and Social Sciences	Communication
Hoffman, Barbara (Dr.	Liberal Arts and Social	Anthropology
Hoffman)	Sciences	, 3,
Holcomb, John	Science	Mathematics
Holland, Nolan	Engineering	Chemical & Biomedical
,	gg	Engineering
Hollinger, Constance	Science	Psychology
Horvath, Michael	Science	Psychology
Hrivnak, MaryWilson	Business Administration	Management & Labor
Hubbard, Dana	Liberal Arts and Social	Sociology
rabbara, bana	Sciences	Cooleragy
Humphrey, Thomas	Liberal Arts and Social Sciences	History
Hung, Yung-Tse	Engineering	Civil And Environmental Engineering
Hurwitz, Richard (Dick)	Education and Human	College of Education, Dean's
	Services	Office
		top
Ibrahim, Mounir	Engineering	Mechanical Engineering
Ingersoll, R	Education and Human	Counseling, Administration,
	Services	Supervision & Adult Learning
Inniss, Lolita	Law	Law
J		<u>top</u>
Jackson, Debbie (Dr.	Education and Human	Teacher Education
Jackson)	Services	
Jackson,	Liberal Arts and Social	Social Work
Maggie (Maggie)	Sciences	

Jang, Sung-Gheel	Urban Affairs	Urban Studies
Javalgi, Rajshekhar	Business Administration	College of Business, Dean's Office
Jayanti, Rama	<b>Business Administration</b>	Marketing
Jeffers, Jennifer	Liberal Arts and Social Sciences	English
Jeffres, Leo	Graduate Studies	College of Graduate Stds, Dean's Office
Jennings-Sanders,	Education and Human	Nursing
Andrea	Services	-
Jeziorowski, John	Science	Health Sciences
<u>Jian, Guowei</u>	Liberal Arts and Social Sciences	Communication
Johnson,	Science	Psychology
Brenda (Brenda K.		
Johnson)		
Johnson, Vicki	Education and Human Services	Nursing
Jones, Mittie	Urban Affairs	Urban Studies
Joseph, W	Business Administration	College of Business, Dean's Office
Jouan-Westlund, Annie	Liberal Arts and Social Sciences	Modern Languages
<u>Judge,</u>	Science	Psychology
Katherine (Kathie)		
K		<u>top</u>
Kahana, Boaz	Science	Psychology
Kalafatis, Michael	Science	Chemistry
Kamath, Ravindra	Business Administration	Finance
Karem, Frederick	Liberal Arts and Social Sciences	English
Kaufman, Miron	Science	Physics
Kaufman, Sanda	Urban Affairs	Urban Studies
Keating, W	Urban Affairs	Urban Studies
Kellogg, Wendy	Urban Affairs	Urban Studies
Kendig, Keith	Science	Mathematics
Kent, Stephanie	Liberal Arts and Social Sciences	Sociology
Keys, L	Engineering	Industrial & Manufacturing Engineering
Khan, Lutful	Engineering	Civil And Environmental Engineering
Khan, Rasul	Science	Mathematics
Kim, Hoe Kyeung	Education and Human Services	Teacher Education
Kleidman, Robert	Liberal Arts and Social Sciences	Sociology
Klinger, Rita	Liberal Arts and Social Sciences	Music
Komar, Anton	Science	Biology, Geology, Environmental Science
Konangi, Vijaya	Engineering	Electrical & Computer Engineering
Kondratov, Roman	Science	Biology, Geology, Environmental Science
Kosteas, Billy	Liberal Arts and Social Sciences	Economics

Koukhanova, Irina	Liberal Arts and Social Sciences	Art
Krebs, Robert (Bob	Science	Biology, Geology,
<u>Krebs)</u>		Environmental Science
Krumholz, Norman	Urban Affairs	Urban Studies
Kuo, Chin	Engineering	Civil And Environmental Engineering
L		top
LaGrange, Teresa	Liberal Arts and Social	College of Liberal Arts and
	Sciences	Social Science, Dean's Office
Lam, Tak (Eddie T. C.		Health, Physical Education,
Lam)	Services	Recreation & Dance
Lammers, Andrew	Science	Health Sciences
Lardner, David	Liberal Arts and Social	
Laidner, David	Sciences	English
Larger Devid		English
Larson, David	Liberal Arts and Social Sciences	English
Lee, Doohee	Business Administration	Lloolth Coro Admin Drogram 9
Lee, Doonee	Dusiness Auministration	Health Care Admin Program & Public Health
Lee, Jae-Won	Liberal Arts and Social	Communication
	Sciences	
Lee, Sugie	Urban Affairs	Urban Studies
Lehfeldt, Elizabeth	Liberal Arts and Social	History
	Sciences	•
Lewis, Jeffrey	Liberal Arts and Social	Political Science
	Sciences	
Li, Bibo	Science	Biology, Geology,
		Environmental Science
Lieberman, Evan	Liberal Arts and Social	Communication
	Sciences	
<u>Liggett, Helen</u>	Urban Affairs	Urban Studies
Lin, Chien-Hua	Business Administration	Computer & Information
		Science
<u>Lin, Paul</u>	Engineering	College of Engineering,
		Dean's Office
Lindmark, Donald	Science	Biology, Geology,
		Environmental Science
Little, Kathleen (Kathy)	_	Health, Physical Education,
L. C. A. P. G.	Services	Recreation & Dance
<u>Liva, Victor</u>	Liberal Arts and Social	Music
Laste James	Sciences	Dhusia
Lock, James	Science	Physics
Long, Patricia (Trisha	Education and Human	Teacher Education
Long)	Services	
Loovis, Edwin (Michael)		Health, Physical Education,
	Services	Recreation & Dance
Lundstrom, William	Business Administration	Marketing
Lupton, Gregory	Science	Mathematics
Lustig, Rolf	Engineering	Chemical & Biomedical
	-	Engineering
M		top
MacCluskie, Kathryn	Education and Human	Counseling, Administration,
	Services	Supervision & Adult Learning
Madhavaram, Sreedhar	Business Administration	Marketing
Maguire, Katheryn	Liberal Arts and Social	Communication
	Sciences	
Mallett, Christopher	Liberal Arts and Social	Social Work
	Sciences	

Manning, Philip	Liberal Arts and Social Sciences	Sociology
Marczely, Bernadette (DR. MARCZELY)	Education and Human Services	Counseling, Administration, Supervision & Adult Learning
Margolius, Barbara	Science	Mathematics
Marino, James	Liberal Arts and Social	English
Marquez-Zenkov, Kristien (Kristien)	Sciences Education and Human Services	Teacher Education
Martin, Harry	Business Administration	Management & Labor
Masnovi, John	Science	Chemistry
Mason, Kimberly	Education and Human Services	Counseling, Administration, Supervision & Adult Learning
Matos, Victor	Business Administration	Computer & Information Science
Matthews, Sarah	Liberal Arts and Social Sciences	Sociology
Mauersberger, George (george mauersberger)	Liberal Arts and Social Sciences	Art
Mawdsley, Ralph (Professor)	Education and Human Services	Counseling, Administration, Supervision & Adult Learning
Mazumder, Barsanjit	Science	Biology, Geology, Environmental Science
McCahon, Cheryl	Education and Human Services	Nursing
McIntyre, David	Business Administration	Computer & Information Science
McKinney, Edward	Liberal Arts and Social Sciences	Social Work
McLennan, Conor	Science	Psychology
		Decode allegations
McNamara, Kathleen (Kathy)	Science	Psychology
McNamara, Kathleen (Kathy) Medina-Rivera, Antonio		Modern Languages
Kathleen (Kathy)	Liberal Arts and Social	,
Kathleen (Kathy) Medina-Rivera, Antonio	Liberal Arts and Social Sciences Liberal Arts and Social	Modern Languages
Kathleen (Kathy) Medina-Rivera, Antonio Meeker, Howard	Liberal Arts and Social Sciences Liberal Arts and Social Sciences	Modern Languages  Music
Kathleen (Kathy) Medina-Rivera, Antonio Meeker, Howard Meier, Heidi	Liberal Arts and Social Sciences Liberal Arts and Social Sciences Business Administration Liberal Arts and Social Sciences Education and Human	Modern Languages  Music  Accounting
Kathleen (Kathy) Medina-Rivera, Antonio Meeker, Howard Meier, Heidi Meiksins, Peter Menendez, Anthony Mensforth, Robert (Dr.	Liberal Arts and Social Sciences Liberal Arts and Social Sciences Business Administration Liberal Arts and Social Sciences	Modern Languages  Music  Accounting Sociology
Kathleen (Kathy) Medina-Rivera, Antonio  Meeker, Howard  Meier, Heidi Meiksins, Peter  Menendez, Anthony  Mensforth, Robert (Dr. Bob)	Liberal Arts and Social Sciences Liberal Arts and Social Sciences Business Administration Liberal Arts and Social Sciences Education and Human Services Liberal Arts and Social	Modern Languages  Music  Accounting Sociology  Teacher Education  Anthropology
Kathleen (Kathy) Medina-Rivera, Antonio  Meeker, Howard  Meier, Heidi Meiksins, Peter  Menendez, Anthony  Mensforth, Robert (Dr. Bob) Meyer-Emerick, Nancy	Liberal Arts and Social Sciences Liberal Arts and Social Sciences Business Administration Liberal Arts and Social Sciences Education and Human Services Liberal Arts and Social Sciences Urban Affairs	Modern Languages  Music  Accounting Sociology  Teacher Education  Anthropology  Urban Studies
Kathleen (Kathy) Medina-Rivera, Antonio Meeker, Howard Meier, Heidi Meiksins, Peter Menendez, Anthony Mensforth, Robert (Dr. Bob) Meyer-Emerick, Nancy Mikelbank, Brian	Liberal Arts and Social Sciences Liberal Arts and Social Sciences Business Administration Liberal Arts and Social Sciences Education and Human Services Liberal Arts and Social Sciences	Modern Languages  Music  Accounting Sociology  Teacher Education  Anthropology  Urban Studies Urban Studies
Kathleen (Kathy) Medina-Rivera, Antonio  Meeker, Howard  Meier, Heidi Meiksins, Peter  Menendez, Anthony  Mensforth, Robert (Dr. Bob) Meyer-Emerick, Nancy	Liberal Arts and Social Sciences Liberal Arts and Social Sciences Business Administration Liberal Arts and Social Sciences Education and Human Services Liberal Arts and Social Sciences Urban Affairs Urban Affairs	Modern Languages  Music  Accounting Sociology  Teacher Education  Anthropology  Urban Studies Urban Studies Health Sciences Computer & Information
Kathleen (Kathy) Medina-Rivera, Antonio  Meeker, Howard  Meier, Heidi Meiksins, Peter  Menendez, Anthony  Mensforth, Robert (Dr. Bob) Meyer-Emerick, Nancy Mikelbank, Brian Milidonis, MaryKay Misra, Santosh  Monaghan,	Liberal Arts and Social Sciences Liberal Arts and Social Sciences Business Administration Liberal Arts and Social Sciences Education and Human Services Liberal Arts and Social Sciences Urban Affairs Urban Affairs Science Business Administration Education and Human	Modern Languages  Music  Accounting Sociology  Teacher Education  Anthropology  Urban Studies  Urban Studies  Health Sciences  Computer & Information Science  Counseling, Administration,
Kathleen (Kathy) Medina-Rivera, Antonio  Meeker, Howard  Meier, Heidi Meiksins, Peter  Menendez, Anthony  Mensforth, Robert (Dr. Bob) Meyer-Emerick, Nancy Mikelbank, Brian Milidonis, MaryKay Misra, Santosh	Liberal Arts and Social Sciences Liberal Arts and Social Sciences Business Administration Liberal Arts and Social Sciences Education and Human Services Liberal Arts and Social Sciences Urban Affairs Urban Affairs Urban Affairs Science Business Administration Education and Human Services Education and Human	Modern Languages  Music  Accounting Sociology  Teacher Education  Anthropology  Urban Studies  Urban Studies  Health Sciences  Computer & Information Science
Kathleen (Kathy) Medina-Rivera, Antonio  Meeker, Howard  Meier, Heidi Meiksins, Peter  Menendez, Anthony  Mensforth, Robert (Dr. Bob) Meyer-Emerick, Nancy Mikelbank, Brian Milidonis, MaryKay Misra, Santosh  Monaghan, Catherine (Kate)	Liberal Arts and Social Sciences Liberal Arts and Social Sciences Business Administration Liberal Arts and Social Sciences Education and Human Services Liberal Arts and Social Sciences Urban Affairs Urban Affairs Science Business Administration Education and Human Services Education and Human Services Education and Human Services Liberal Arts and Social	Modern Languages  Music  Accounting Sociology  Teacher Education  Anthropology  Urban Studies  Urban Studies  Health Sciences  Computer & Information Science  Counseling, Administration, Supervision & Adult Learning
Kathleen (Kathy) Medina-Rivera, Antonio Meeker, Howard Meier, Heidi Meiksins, Peter Menendez, Anthony Mensforth, Robert (Dr. Bob) Meyer-Emerick, Nancy Mikelbank, Brian Milidonis, MaryKay Misra, Santosh Monaghan, Catherine (Kate) Moore, James (Jim)	Liberal Arts and Social Sciences Liberal Arts and Social Sciences Business Administration Liberal Arts and Social Sciences Education and Human Services Liberal Arts and Social Sciences Urban Affairs Urban Affairs Urban Affairs Science Business Administration Education and Human Services Education and Human Services Education and Human Services	Modern Languages  Music  Accounting Sociology  Teacher Education  Anthropology  Urban Studies  Urban Studies  Health Sciences  Computer & Information Science  Counseling, Administration, Supervision & Adult Learning  Teacher Education

Munakata, Toshinori	Business Administration	Computer & Information Science
Murray, Sylvester	Urban Affairs	Urban Studies
N		<u>top</u>
Nair, Murali (Nair)	Liberal Arts and Social Sciences	Social Work
Nayfeh, Taysir	Engineering	Industrial & Manufacturing Engineering
Neuendorf, Kimberly	Liberal Arts and Social Sciences	Communication
Nevadomi, Kenneth	Liberal Arts and Social Sciences	Art
Ng, Lily	Science	Chemistry
Nordgren, Rollin (R.D.	Education and Human	Counseling, Administration,
Nordgren)	Services	Supervision & Adult Learning
0		top
Oprea, John	Science	Mathematics
Orendi, Diana	Liberal Arts and Social Sciences	Modern Languages
Ozturk, Mehmet	Education and Human Services	Curriculum & Foundations
Р		top
Pantano, Kathleen	Science	Health Sciences
Park, Ernest	Science	Psychology
Park, Yun-Joo	Liberal Arts and Social Sciences	Sociology
Patterson,	Education and Human	Health, Physical Education,
Sheila (Sheila	Services	Recreation & Dance
Patterson)		
Pearl, Deborah	Liberal Arts and Social Sciences	History
Perera-Diltz,	Education and Human	Counseling, Administration,
Dilani (Dilani)	Services	Supervision & Adult Learning
Perloff, Richard	Liberal Arts and Social Sciences	Communication
Perrine, John	Liberal Arts and Social Sciences	Music
Perry, Justin	Education and Human Services	Counseling, Administration, Supervision & Adult Learning
Pesek, Todd	Science	Health Sciences
Pesta, Bryan	Business Administration	Management & Labor
Peterman, Francine	Education and Human Services	Curriculum & Foundations
Phillips-Bey, Carol	Science	Mathematics
Poreh, Amir	Science	Psychology
Pourdavood,	Education and Human	Teacher Education
Roland (Professor	Services	
Roland G. Pourdavood)		
Poznanski, Peter	<b>Business Administration</b>	Accounting
Q		top
Quigney, Theresa	Education and Human Services	Teacher Education
R		top
Rafiroiu, Anca	Education and Human	Health, Physical Education,
	Services	Recreation & Dance
Rakos, Richard	Science	Psychology
Rakow, Susan	Education and Human Services	Curriculum & Foundations

Rand, Michael	Liberal Arts and Social Sciences	Communication
Rashidi, Majid	Engineering	Engineering Technology
•	Liberal Arts and Social	Communication
Ray, George		Communication
Degrees: Wendy	Sciences	Casialass
Regoeczi, Wendy	Liberal Arts and Social	Sociology
D : 1	Sciences	
Reichert, Alan	Business Administration	Finance
Reinthal, M (Ann Karas	Science	Health Sciences
Reinthal)		
Reminick, Ronald	Liberal Arts and Social	Anthropology
	Sciences	
Revock, Russell (Russ)		Art
rtovock, rtasoon (rtaso)	Sciences	,
Richter, Hanz	Engineering	Mechanical Engineering
	Liberal Arts and Social	Music
Rindfleisch, Andrew		Music
Balanca Harr	Sciences	
Robertson, Heidi	Law	Law
Robichaud, Allyson	Liberal Arts and Social	Philosophy
	Sciences	
Rodriguez, Marnie	Liberal Arts and Social	Sociology
	Sciences	
Rogers, Elice	Education and Human	Counseling, Administration,
	Services	Supervision & Adult Learning
Rom, Walter	Business Administration	Operations Management &
		Business Statistics
Rosenbaum, Alan	Liberal Arts and Social	Philosophy
•	Sciences	, ,
Rosentraub, Mark	Urban Affairs	Urban Studies
Ross-Stroud, Catherine		Teacher Education
rtoss-otrodd, Catherine	Services	reacher Education
Pozon Etzmun	Business Administration	Accounting
Rozen, Etzmun		_
Rudd, Jill	Liberal Arts and Social	Communication
	Sciences	
S		<u>top</u>
Sadlek, Gregory	Liberal Arts and Social	College of Liberal Arts and
	Sciences	Social Science, Dean's Office
Sahley, Tony	Science	Health Sciences
Salzman, James (Jim	Education and Human	Teacher Education
Salzman)	Services	
Sam-Yellowe, Tobili	Science	Biology, Geology,
Jam Tollowe, Tobili	Cololido	Environmental Science
Sang, Janche	Business Administration	Computer & Information
oang, Janone	Dusiness Auministration	Science
Sawieki Joszy	Engineering	
Sawicki, Jerzy	Engineering	Mechanical Engineering
Scherer, Robert (Bob)	Business Administration	College of Business, Dean's
		Office
Schneider, Richard	Liberal Arts and Social	Art
	Sciences	
Schultheiss, Donna	Education and Human	Counseling, Administration,
	Services	Supervision & Adult Learning
Schwartz, Sheila	Liberal Arts and Social	English
	Sciences	
Shah, Amee	Science	Health Sciences
Shah, Dhananjai	Engineering	Chemical & Biomedical
	5 5	Engineering
Shao, Sailai (Sally	Science	Mathematics
Shao)		
<u>Snau)</u>		

Shelton, Robert (Rob)	Liberal Arts and Social Sciences	History
Sheskin,	Engineering	Industrial & Manufacturing
Theodore (Theodore J.	•	Engineering
Sheskin)		3
Shukla, Girish (Girish)	Science	Biology, Geology,
Shukia, Girish (Girish)	Science	Environmental Science
Sikder, Iftikhar	Business Administration	Computer & Information
Sikuer, Ittikriai	Dusiness Administration	Science
Silberger, Allan	Science	Mathematics
Simon, Daniel (Dan)	Engineering	Electrical & Computer Engineering
Simons, Robert	Urban Affairs	Urban Studies
<u>Skalski, Paul</u>	Liberal Arts and Social Sciences	Communication
Slane, Stephen (Steve)	Science	College of Science, Dean's Office
Slifkin, Andrew	Science	Psychology
Slotnick, Susan	Business Administration	Operations Management &
·		Business Statistics
Smith, Albert	Science	Psychology
Smith, Howie	Liberal Arts and Social	Music
	Sciences	
Smith, Mieko	Liberal Arts and Social	Social Work
	Sciences	
Snyder, Lloyd	Law	Law
Sola, Jose	Liberal Arts and Social	History
	Sciences	•
Sonstegard, Adam	Liberal Arts and Social	English
	Sciences	
Soprunov, Ivan	Science	Mathematics
Sotiropoulos, Karen	Liberal Arts and Social Sciences	History
Souther, J	Liberal Arts and Social	History
	Sciences	
Sowa, Jessica	Urban Affairs	Urban Studies
Sowell, Scott	Education and Human	Teacher Education
	Services	
Sparks, Kenneth (Ken)	Education and Human	Health, Physical Education,
	Services	Recreation & Dance
Spicer, Michael	Urban Affairs	Urban Studies
Sridhar,	Engineering	Electrical & Computer
Nigamanth (Nigamanth)	1	Engineering
Stahlman, Judy	Education and Human Services	Teacher Education
Stankovic, Ana	Engineering	Electrical & Computer
	3 3	Engineering
Stead, Graham	Education and Human Services	Curriculum & Foundations
Stein, Sheldon	Liberal Arts and Social	Economics
Steinberg, Diane	Sciences Liberal Arts and Social	Philosophy
	Sciences	
Steinglass, Steven	Law	Law
Stella, Leah	Science	Mathematics
Stivers, Camilla	Urban Affairs	Urban Studies
Streletzky, Kiril	Science	Physics
Suen, Chung-Yi	Science	Mathematics
<del></del>		

Sun, Rongjun	Liberal Arts and Social Sciences	Sociology
Sun, Xue-Long	Science	Chemistry
Sung, Paul	Science	Health Sciences
Susbauer, Jeffrey	Business Administration	Management & Labor
Sutton, Rosemary	Education and Human Services	Curriculum & Foundations
Т		<u>top</u>
Talu, Orhan	Engineering	Chemical & Biomedical Engineering
Tan, Qingshan	Liberal Arts and Social Sciences	Political Science
Tayyara, Abed	Liberal Arts and Social Sciences	Modern Languages
Tebeau, Mark	Liberal Arts and Social Sciences	History
Tevesz, Michael	Urban Affairs	Urban Studies
Tewari, Surendra	Engineering	Chemical & Biomedical Engineering
Thomas, Edward	Business Administration	Marketing
Thurschwell, Adam	Law	Law
Toman, Sarah	Education and Human	Counseling, Administration,
Toman, Oaran	Services	Supervision & Adult Learning
Tukel, Oya	Business Administration	Operations Management & Business Statistics
Tumeo, Mark	Engineering	Civil And Environmental Engineering
Turner, John	Science	Chemistry
U		top
Ungarala, Sridhar	Engineering	Chemical & Biomedical Engineering
V		top
VanKeulen,	Science	Biology, Geology,
Harry (Harry)	30101100	Environmental Science
Vaughn, Justin	Liberal Arts and Social	Political Science
	Sciences	
Visocky O'Grady, Jennifer	Liberal Arts and Social Sciences	Art
Vitali, Jacqueline	Science	Physics
Vogelsang-Coombs,	Urban Affairs	Urban Studies
Vera		
Volk, Dinah	Education and Human Services	Teacher Education
Vonderwell, Selma	Education and Human Services	Curriculum & Foundations
W		<u>top</u>
Wachira, Patrick	Education and Human Services	Teacher Education
Waithe,	Liberal Arts and Social	Philosophy
MaryEllen (Mary Ellen Waithe)	Sciences	
Wallace,	Science	Psychology
· · · · · · · · · · · · · · · · · · ·	20101100	. Sydilology
Benjamin (Benjamin Wallace)		
Walton,	Science	Biology, Geology,
Bernard (Michael)		Environmental Science
	Education and Human	Curriculum & Foundations
	Services	

Webb, James	Business Administration	Finance
Webb,	<b>Business Administration</b>	Marketing
Marion (Professor		
Webb)		
Wei, Robert	Science	Chemistry
Weinstein, Alan	Law	Law
Weitzel, Marilyn	Education and Human Services	Nursing
Welfel, Elizabeth	Education and Human Services	Counseling, Administration, Supervision & Adult Learning
Wells, Michael	Urban Affairs	Urban Studies
Wertheimer, Laura	Liberal Arts and Social Sciences	History
Weyman, Crystal	Science	Biology, Geology, Environmental Science
Wheatley, Karl	Education and Human Services	Teacher Education
Whipple, Thomas (Tom	Business Administration	Marketing
Whitbred, Robert (Rob)	Liberal Arts and Social Sciences	Communication
Wilberschied, Lee (Dr. Lee)	Liberal Arts and Social Sciences	Modern Languages
Williams, Paul (Paul)	Education and Human Services	Counseling, Administration, Supervision & Adult Learning
Williams, Regennia	Liberal Arts and Social Sciences	History
Wilson, John	Science	Psychology
Wolf, Linda	Education and Human Services	Nursing
Wolin, Julie	Science	Biology, Geology, Environmental Science
Wong, Connie	Education and Human Services	Teacher Education
Wright, Dwayne (Dr. Wright)	Education and Human Services	Curriculum & Foundations
Wu, Yuping	Science	Mathematics
X		top
Xiong, Fuqin	Engineering	Electrical & Computer Engineering
Xu, Yan	Science	Chemistry
Υ		top
Yang, Saini	Engineering	Civil And Environmental Engineering
Yetmar, Scott	Business Administration	Accounting
Yu, Chansu (Chan)	Engineering	Electrical & Computer Engineering
Yuan, Fasong	Science	Biology, Geology, Environmental Science
Yurick, Amanda (Dr. Yurick)	Education and Human Services	Teacher Education
Yusko, Brian (Brian)	Education and Human Services	College of Education, Dean's Office
Z		top
Zaharias, Jane	Education and Human Services	College of Education, Dean's Office
Zawahri, Neda	Liberal Arts and Social Sciences	Political Science

Zhao, Wenbing	Engineering	Electrical & Computer Engineering	
Zhou, Aimin	Science	Chemistry	
Zhu, Ye	Engineering	Electrical & Computer Engineering	
Ziegler, Susan (Sue)	Education and Human Services	Health, Physical Education, Recreation & Dance	
Ziolek, Eric	Liberal Arts and Social Sciences	Music	
Zurcher, Ulrich (Ulrich Zurcher)	Science	Physics	
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## Cleveland State University

# College of Graduate Studies



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#### Mailing Address

Cleveland State University College of Graduate Studies 2121 Euclid Avenue Parker Hannifin Hall 218 Cleveland, OH 44115-2214

#### **Campus Location**

Parker Hannifin Hall, Room 218 2258 Euclid Avenue

Phone: 216.687.9370 Fax: 216.687.9214

**Web Content Contact** 

Charles Newton grad@csuohio.edu

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**Mailing Address** 

Cleveland State University College of Graduate Studies 2121 Euclid Avenue Parker Hannifin Hall 218 Cleveland, OH 44115-2214

Campus Location

Parker Hannifin Hall, Room 218 2258 Euclid Avenue

Phone: 216.687.9370 Fax: 216.687.9214

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#### BYLAWS OF THE FACULTY OF THE COLLEGE

8.4.1 Article I. Name

8.4.2 Article II. Membership

8.4.3 Article III. Powers

8.4.4 Article IV. Officers

8.4.5 Article V. Meetings

8.4.6 Article VI. Graduate Council

8.4.7 Article VII. Research Council

8.4.8 Article VIII. Administrative Responsibilities

8.4.9 Article IX. Amendments

Complete Faculty Senate Bylaws (MS Word Document)

### BYLAWS OF THE FACULTY OF THE COLLEGE OF GRADUATE STUDIES

Approved by the Board of Trustees May 20, 2005

These Bylaws are applicable within the authorization established by the Bylaws of the Board of Trustees and of the Faculty Organization of Cleveland State University.

#### 8.4.1 Article I. Name

- **A)** This organization shall be known as the Faculty of the College of Graduate Studies of Cleveland State University.
- **B**) Graduate Studies shall be defined as those academic and professional curricula which require student achievement above the baccalaureate level in any field leading to a Master's, Specialist's, or Doctor's degree, except for the degree of J.D. In addition, graduate level certificates, licensure programs or other post baccalaureate programs may apply to the Graduate Council for inclusion.

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#### 8.4.2 Article II. Membership

A) The faculty of the College of Graduate Studies shall be constituted as follows:

- 1. The President of the University, the Provost and Senior Vice President for Academic Affairs, the Dean, Associate Dean and Assistant Dean(s) of the College of Graduate Studies, and all Deans of Colleges of the University. All these members are ex officio and non-voting members unless qualified under 8.4.2(A)(2).
- 2. All members of the faculty under full-time contract to the university, emeritus faculty, and University administration who meet the eligibility requirements set forth in 8.4.2(B), who so desire, and whose credentials have been evaluated and approved by the Graduate Council. All such members shall be voting members.
- 3. Special status faculty who meet the eligibility requirements set forth in 8.4.2 (B) may be recommended for non-voting Graduate Faculty membership by the Graduate Faculty of the appropriate program. These recommendations are processed through the appropriate department chairperson and college dean and submitted to the Graduate Council for evaluation and approval. Special status faculty are not eligible for membership on the Graduate Council.
- 4. Faculty Emeriti who are members of the Graduate Faculty at the time of retirement shall continue to be voting members of the Graduate Faculty for the remainder of their terms. When their terms expire, Graduate Faculty Emeriti may have their memberships renewed as non-voting members upon request. Faculty Emeriti who qualify under subsection 2) of this Section shall be voting members of the Graduate Faculty.
- 5. In such cases where a faculty member has been judged by the Graduate Council not to fulfill 8.4.2(B)(1)) or 8.4.2(B)(2), the individual may petition the Graduate College Admissions and Standards Committee for Graduate Faculty membership. The recommendation of the Admissions and Standards Committee on such petitions will be forwarded to the Graduate Council for a final determination.
- 6. In such cases where a faculty member does not seek Graduate Faculty membership, but wishes to perform a limited number of the functions of a Graduate Faculty member defined in 8.4.3, the individual may petition the Graduate Council to perform specific functions for a period not to exceed three (3) years. Such petitions will be considered when the contribution of the faculty member is vital to the function of the program, or in other extraordinary circumstances.
- 7. Upon request of a Graduate Faculty member, Graduate Faculty status may be extended for up to one year upon the vote of Graduate Council after the determination of the Graduate Faculty Review Committee that:
  - a) The faculty member requesting the extension was affected by (a) a serious medical condition or (b) an extended absence from work due to a reason allowed under the Family Medical Leave Act, during the period of their most recent Graduate Faculty membership;
  - b) That the illness or leave resulted in the member being unable to maintain the level of scholarly and creative activity necessary for a significant period of time; and
  - c) In the determination of the Committee, the Graduate Faculty member has provided information sufficient to show that she or he will probably be able

to meet the requirements to have his or her Graduate Faculty status renewed after the extension period.

- **B**) University, emeritus, or special status faculty may seek Graduate Faculty membership as a result of their on going\_accomplishments and demonstrated knowledge in their field.
  - 1) Requirements for membership:
  - a) Doctoral or terminal degree in field.
    - b) Full-time faculty receiving their terminal degree within two (2) years of seeking Graduate Faculty membership, but who do not fulfill the peer approval requirement, may be recommended for an initial three (3) year membership term if they have submitted at least some evidence of their accomplishments or knowledge of their discipline for review and approval under the guidelines. At the termination of this initial membership period, continuation of Graduate Faculty membership will require compliance with the criteria stated herein.
    - c) Peer approval within a discipline of clinical, creative, scholarly or technical achievement which culminates in appropriate recognition, publication or professional licensing and practice. Peer approval may take whatever form is appropriate for the discipline:
    - d) For persons seeking reappointment to the Graduate Faculty (see 8.4.2 (C)), evidence of on going accomplishments and demonstrated knowledge of their discipline must be presented, and must have occurred within the membership term being completed or since the most recently completed membership term.
  - C) Graduate Faculty members are appointed for a five (5) year term, with the year of appointment serving as the first year of the term. The Dean of the College of Graduate Studies shall maintain a current list of members of the Faculty of the College of Graduate Studies. This list shall be distributed to the faculty annually.

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#### **8.4.3** Article III. Powers

- A) The Graduate Faculty shall determine educational objectives for the College of Graduate Studies, establish proper standards directed toward efficient achievement of those objectives, coordinate the educational policies of the College of Graduate Studies with those of the other Colleges of the University, and foster graduate education and scholarly research. Only members of the Graduate Faculty may:
  - 1. teach graduate level courses numbered 600 and above on a recurring basis;
  - 2. chair or serve as a voting member of an exit project, master's thesis or doctoral dissertation advisory committee, except that external members of such a committee may be voting members without Graduate Faculty membership as long as they meet the professional qualifications deemed appropriate by the department and have been approved as a committee member by the Dean of Graduate Studies;

- 3. chair a comprehensive examination committee for graduate students;
- 4. serve as a Graduate Program Director or as a member of a program graduate studies committee.
- **B**) The Graduate Faculty shall be responsible for the granting of all graduate degrees awarded by the College of Graduate Studies.
- *C*) The Graduate Faculty can recall, nullify, or modify any action of the Graduate Council by a two-thirds vote of those voting. Such action shall require a formally approved motion presented at a meeting of the Graduate Faculty and voting shall follow by mail ballot under the auspices of the Dean of Graduate Studies.
- **D)** During the Spring term, the Graduate Faculty shall elect one of its members to the Faculty Senate. The Dean of the College of Graduate Studies shall ascertain which members of the Graduate Faculty are willing to serve in this capacity. This process shall take place at least two weeks prior to a mail balloting through which the two (2) candidate with the highest number of votes shall be declared the designated candidates in the ensuring election.
- **E**) Should the number of graduate faculty representatives to the Faculty Senate be changed by the provisions of the University Faculty Bylaws, the procedures of this Article shall apply except that the number of nominees in the election may change. However, the number will always be in a ratio of two (2) to one (1), relative to the number of representatives to the Faculty Senate to be chosen at the election.

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#### 8.4.4 Article IV. Officers

- *A*) The Dean of the College of Graduate Studies shall be the chief executive officer of the College of Graduate Studies and shall be the chairperson of the Graduate Faculty.
  - 1) The Dean or the Dean's designated representative shall preside at Graduate College Faculty meetings.
- **B**) A secretary of the Graduate Faculty shall be appointed by the Dean of the College of Graduate Studies.
  - 1) The Secretary shall keep records of the meetings of the Graduate Faculty. These records will be made public in whole or in part to the Graduate Faculty.
  - 2) The Secretary shall notify each member of the Graduate Faculty of the time, place, and agenda of each meeting at least seven (7) days in advance of the meeting. The Secretary shall make available to members of the Graduate Faculty a copy of the complete minutes of each meeting.

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#### 8.4.5 Article V. Meetings

- A) The faculty of the College of Graduate Studies shall meet at least once each academic year, at a date and time to be set by the Graduate Dean and the Graduate Council, and upon at lest seven (7) days advance notice, with a published agenda which shall permit the introduction of business from the floor. Faculty meetings may be requested by petition of at least five (5) percent of the voting members of the Faculty of the College of Graduate Studies, as presented in writing to the Dean of the College.
- **B**) Twenty-five (25) percent of the total membership of the Faculty of the College of Graduate Studies shall constitute a quorum for the purpose of transacting official business.
- C) All meetings shall be conducted according to Robert's Rules of Order.
- **D**) Items may be placed on the published agenda of Graduate Faculty meetings by the Graduate Dean, the Graduate Council, or the request of at least five (5) percent of the voting members of the Faculty of the College of Graduate Studies.

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#### 8.4.6 Article VI. Graduate Council

- A) The Graduate Council shall consist of:
  - 1. The Dean of the College of Graduate Studies (voting), any Associate and Assistant Deans of the College of Graduate Studies (ex officio and non-voting, unless qualified to vote under 8.4.6(C)(4)), and the University Library Director (ex officio, non-voting.)
  - 2. Fourteen (14) elected faculty members, one each from the following two (2) academic areas: Urban Affairs and Law; and two (2) from each of the following six (6) academic areas: Business; Education; Engineering; Humanities and Arts; Natural Sciences and Mathematics; and, Social and Behavioral Sciences. Each department, institute and division shall be identified as to area by the Provost and Senior Vice President for Academic Affairs in consultation with the academic unit of the university. No two (2) Council members may be from the same department, institute, or division.

#### B) Election Provisions

- 1) Membership. Faculty members of the Graduate Council must be voting members of the Graduate Faculty who hold no administrative appointment other than that of chairperson or director.
- 2) Terms of Office. Terms of office shall be two (2) years. Terms shall begin on -August 15 following the regular election.
- 3) Dates of Nomination Process and Elections. Elections shall be held during the spring term of each academic year, following the nomination process. The Graduate Council shall set the date for the nomination process and election early during the spring term of each academic year.
- 4) Mail Ballots. All nominations and elections shall be by mail ballot.
- 5) Tie Votes. All tie vote shall be resolved by drawing lots. The Graduate

Dean shall do so in the presence of the Graduate Council.

6) Nomination Process. Nominations for the Graduate Council shall be by mail ballot as follows. The Graduate Dean shall determine which eligible members of the Graduate Faculty are willing to serve. This process shall take place at least two (2) weeks prior to the nomination ballot.

All eligible members of the Graduate Faculty who have indicated in writing a willingness to serve shall be listed on a nomination ballot appropriate to their academic areas defined in Article IV(A)(2). Each voting Graduate Faculty member from the academic area concerned shall have one (1) vote. The two (2) members receiving the highest number of votes shall be the candidates in the ensuring election.

- 7) Election. Each voting Graduate Faculty member shall have one (1) vote for the representative from his/her academic area.
- 8) Vacancies. In the event that a vacancy occurs in the Graduate Council, the Dean in the academic area in which the vacancy occurs shall submit to the Council the names of no more than three (3) voting members of the Graduate Faculty who have indicated their willingness to serve on the Council. From these nominations, the Council will select the person to fill the unexpired term. Any person filling an unexpired term remains fully eligible for election to Graduate Council, and the time of service while filling a vacated position is not subject to the limitation described in 8.4.6(B)(9).
- 9) Limitations on Terms of Office. Members of the Graduate Council shall be limited to serving two (2) consecutive two (2) year terms. After the completion of a second, consecutive, two (2) year term, the faculty member shall not be eligible for re-election to the council until two (2) years elapse from the conclusion of the second consecutive term of office.

#### *C*) Meetings and Quorum:

- 1. Regular meetings shall be held at least monthly during the academic year, or upon call of the Dean of Graduate Studies or five (5) voting members of the Council.
- 2. A majority of the voting members of the Graduate Council shall constitute a quorum at any meeting.
- 3. All meetings shall be conducted according to Robert's Rules of Order.
- 4. The Dean of the College of Graduate Studies shall act as chairperson of the Graduate Council. The Dean may designate a member of the Graduate Council as chairperson in his/her absence. The chairperson-designate serves as a voting member of the Council.
- 5. Any Graduate Council member may request that any item be placed on the Graduate Council agenda.
- 6. Written Minutes of the meetings shall be taken and filed with the Secretary of the Faculty Senate. Such minutes should indicate all actions taken. Copies of minutes shall be made available to all members of the faculty.
- **D**) The Graduate Council shall be charged with the following responsibilities:
  - 1. Graduate Programs. Review and approval of all proposals for new courses or

- curricula awarding graduate credit, all new programs of graduate study, and all proposals for altering or abolishing existing programs; program review and evaluation of existing programs.
- 2. Student Affairs. Regulation of student admission, standards of achievement and requirements for students enrolled in graduate programs, other specific procedures regarding graduate work, and completion of graduate degree programs.
- 3. Faculty Membership. Establishing procedures for admission, continuance, resignation and/or removal of members of the Faculty of the College of Graduate Studies and approval of Faculty membership.
- 4. Standing Committees. Appointment and discharge of such committees as deemed appropriate. These committees may include student members as appropriate. Standing committees of the College include: Research and Creative Activities, Petitions, Admissions and Standards, and Grade Dispute.
- *E*) The Dean of the College of Graduate Studies and the Graduate Council shall have the power to appoint and to discharge committees as they and/or the Graduate Faculty deem appropriate.

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#### 8.4.7 Article VII. Research Council

- A) The Research Council shall consist of:
  - 1. The Director of Sponsored Programs and the Director, or her or his designee, of any Research Institute which reports to the Vice Provost for Research;
  - 2. Fifteen (15) faculty or staff members eligible under 8.4.7(B), two from each of the seven academic colleges and one from the Division of Continuing Education. Eligible Faculty and staff members shall be nominated by the Deans of their respective Colleges and submitted to the Vice Provost for Research. The eligible candidates so nominated will be presented to the Graduate Council for advice and ratification.
  - 3. A Representative elected annually by the Graduate Faculty during regular elections to serve as a voting member of and liaison to the Research Council.
- **B**) Eligible Faculty and Staff
  - 1) To be considered eligible for appointment to the Research Council, nominees must (a) be well-recognized, active scholars as indicated by external funding, nationally recognized scholarly activity, or other appropriate indicators; (b) be able and willing to attend monthly meetings on a regular basis and (c) actively participate in the deliberations and activities of the Research Council.
- C) The Research Council shall be charged with the following responsibilities:
  - 1. Research Policies: Review and report to the Graduate Council on all proposals for new policies or programs designed to enhance research productivity and

success.

- 2. Internal Funding Programs. Review and recommend changes to the Vice Provost for Research on internal funding programs for research. The Research Council will also review proposals for internal competitions, rank the proposals and forward recommendations for funding to the Vice Provost for Research
- 3. Bylaws of the Research Council. The Research Council shall develop bylaws and procedures. Bylaws of the Research Council must be approved by the Graduate Council.
- 4. Committees. Appointment and discharge of such committees as deemed appropriate. These committees may include members outside the Council, including external to the University, as appropriate.

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#### 8.4.8 Article VIII. Administrative Responsibilities

- A) Each department or other unit authorized to offer programs leading to a graduate degree shall:
  - 1. Establish, within the framework of the policies of the College of Graduate Studies, regulations governing the administration of existing graduate degree programs;
  - 2. Formulate procedures for the evaluation of the graduate degree program of each candidate and certify to the Dean of the College of Graduate Studies those students who are advanced to candidacy for graduation, upon completion of all requirements for a graduate degree;
  - 3. Review for admission to a graduate degree program, all students who meet the minimum admission requirements stated in the Graduate Bulletin. Where departments desire to admit students who do not meet such requirements, disposition of the case shall be made with the approval of the Graduate Dean.
  - 4. Within the framework of the policies of the College of Graduate Studies, review and approve applications for graduate assistantships.
  - 5. Review the Graduate degree program(s) offered in the department
- **B**) The office of the Dean of the College of Graduate Studies shall:
  - 1. Forward appropriate items to the Graduate Council and to the Faculty Senate.
  - 2. In consultation with the President and the Provost and Senior Vice President for Academic Affairs of the University, determine items to be brought before the Board of Trustees, and the Ohio Board of Regents.
  - 3. Administer a centralized admissions and records center, and have the responsibility to coordinate all applications, admissions, academic warnings, probations, and dismissals pertaining to graduate students.
  - 4. Maintain a secretariat for the Graduate Council and seek to facilitate effective communication between the administration and all University units having graduate programs.
  - 5. Issue certain formal publications, including the Graduate issue of the

Cleveland State University Bulletin.

6. Be responsible for disseminating information on fellowships and grants and encouraging scholarly research.

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#### 8.4.9 Article IX. Amendments

A) Amendments to these Bylaws may be proposed by the Graduate Council or by petition of at least five (5) percent of the members of the Faculty of the College of Graduate Studies. Members of the Faculty of the College of Graduate Studies shall vote by mail ballot on such proposed amendments, and a two-thirds vote of those voting is required to adopt a proposed amendment.

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#### **About College of Graduate Studies**

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#### Mary Leanza Manzuk

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Contact for assistance with assistantship and tuition grant contracts, assistantship orientation, assistantship/tuition grant tuition, speak test, graduate academic regulations, and disseration format.

#### Dianne Oloff

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Contact for assistance with graduate student petitions, graduate academic regulations, academic warnings and dismissal, credit transfer, cross registration, credit by examination and thesis format.

#### Nancy Kaltenbach

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Secretary to Vice Provost for Research and Dean of Graduate Studies, contact to schedule meetings, and general Graduate College issues.

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**Web Content Contact** c.w.newton@csuohio.edu Home » Research » Office of Vice Provost of Research and Dean of Graduate Studies

#### Office of Vice Provost of Research and **Dean of Graduate Studies**

The Office of the Vice Provost for Research serves as an advocate for persons in the University Community who are interested in identifying, applying for, receiving, and conducting research with support from government and nongovernment sponsors, and in assisting administrators with the stewardship of research funds and equipment.

The College of Graduate Studies provides service and support to Graduate students, faculty and academic programs that promote high quality and diverse advanced study opportunities for the betterment of Cleveland State University, the citizens of the State of Ohio and the world.



Leo W. Jeffres, Ph.D.

Interim Vice Provost for Research & **Interim Dean of Graduate Studies** 

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Charles Newton grad@csuohio.edu

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## Graduate Faculty Membership

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Please contact us at 216-687-5599 or e-mail us at <a href="mailto:graduate.admissions@csuohio.edu">graduate.admissions@csuohio.edu</a> for personal appointments or to schedule a campus visit. We look forward to meeting you and answer all your questions! You will find links at the bottom of this page for directions to our campus, campus map, and parking map.

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# Master of Nonprofit Administration and Leadership

#### INTRODUCTION

Nonprofit administration and leadership is a rapidly growing career field in high demand. In recent years the landscape of nonprofit leadership has changed dramatically as the sector has professionalized and taken on more critical role in policy development and service delivery. The Master of Nonprofit Administration and Leadership (MNAL) is a two-year degree designed to prepare students with knowledge of core management functions and competencies such as fundraising, financial management, human resource management, philanthropy, proposal writing, program development, program evaluation and applied management.

#### **DEGREE PROGRAM**

This new degree draws on the strengths of leading scholars and practitioners with expertise in both management functions as well as knowledge of the political character of nonprofits in civil society. The MNAL is an interdisciplinary collaboration of the Levin College of Urban Affairs, the College of Business and the School of Social Work with opportunities for students to take electives from other programs at Cleveland State University. This degree provides students with the tools to build management skills and knowledge of nonprofits in order to improve their employment opportunities, advance in their

organization, or to make a career change.

#### RESEARCH

The Center for Nonprofit Policy and Practice, housed in the Levin College of Urban Affairs, supports and fosters the health of the nonprofit sector in our region through training and technical assistance, scholarly and applied research, and undergraduate and graduate education in the leadership and management of nonprofit organizations. MNAL Program faculty engage in applied research in the nonprofit sector, including conceptualizing and measuring organizational effectiveness, Human Resource Management in the nonprofit sector, Performance Management and Appraisal processes, succession planning and leadership transition, relations between nonprofit organizations seeking grants and foundations; and the impact of collaboration on nonprofit organizations.

#### PROGRAM DESCRIPTION

The curriculum for the MNAL program consists of thirty-nine to fifty-one credit hours, divided into prerequisites, core courses, electives, and a capstone. Prerequisite courses ensure that students have a background in quantitative reasoning and public finance and economics. The MNAL core coursework provides knowledge and experience in the areas of proposal writing and program development, program

planning & evaluation, organizational behavior, human resource management, fundraising and financial administration of nonprofit organizations, as well as the history and development of the nonprofit sector. Students have three courses available for electives, which are designed to enhance current skills or fill gaps in substantive areas. Students are encouraged to take advantage of special topics courses taught by Levin College faculty, and complete an internship if they are not an in service professional. Paid and unpaid internships are arranged through the Levin College Office of Student Services. Finally, all students are required to complete a capstone in nonprofit management and leadership prior to graduation, in which they integrate learning from the MNAL core curriculum with professional practices encountered in nonprofit organizations.

# For admission information contact:

Cleveland State University Graduate Admissions Office 2121 Euclid Ave. Cleveland, OH 44115 (216) 687-5599 www.csuohio.edu/gradcollege/

# For program information contact:

Urban Student Services Maxine Goodman Levin College of Urban Affairs, UR 205, (216) 687-3884

http://urban.csuohio.edu/academics/mnal.shtml



## Ph.D. in Urban Education

#### INTRODUCTION

Providing equal educational opportunities to all children living in the United States is a challenging task. A large number of urban school districts are experiencing difficulty in achieving student success based on mandated state standardized test. The key to increased student success in urban environments is through a focus on improvement of teacher effectiveness and school leadership. The Ph.D. in Urban Education program is designed to prepare educators to apply current research and knowledge to the problems of contemporary urban society.

#### PROGRAM DESCRIPTION

The program offers courses in six specializations: School Administration, Leadership and Lifelong Learning, Learning and Development, Counseling, Counseling Psychology, and Policy Studies. The program emphasizes the acquisition of academic knowledge and technical skills in close relationship with the faculty and with a graduate student support group. Special features of the program include: Use of a cohort model, utilization of the urban educational community as laboratory, research emphasis, and an interdisciplinary core.

#### RESEARCH

Now in its 21<sup>st</sup> year, the program has graduated over 170 professionals many of who continue to play prominent teaching and leadership roles in the Northeastern Ohio educational community. Students in the program have been active in research productivity through conference presentations and publications in refereed journals. The program serves as an example of student success at Cleveland State University with high retention and completion rates.



# PROGRAM REQUIREMENTS

The Ph.D. in Urban Education program is based on the completion of 32 credits hours of the core courses and approximately 20 hours of specialization courses. Candidates for the degree are required to complete a doctoral dissertation

research under the guidance of a faculty dissertation director and research methodologist.

# For admission information contact:

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E-mail: w.pruettbutler@csuohio.edu
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artments/phd/



# **Master of Science in Nursing**

#### INTRODUCTION

The Master's program at Cleveland State University prepares RN's for specialized practice in population health care. Population health care examines the health status of people in defined groups, taking into account attributes thought to influence health (lifestyle, ethnicity, disease, gender, age, environment and social/economic/political conditions). The program is specifically designed for today's working nurse. Coursework for the 38 credit hour program are taken online and clinical practicum hours can be negotiated between the student and preceptor to accommodate busy schedules.

#### PROGRAM DESCRIPTION

The need for nurses in all aspects of health care is growing. Professional programs once aimed at only producing nurses with advanced practitioner skills now also recognize the need to educate nurses at the graduate level in areas such as leadership, systems management, evidencebased quality outcomes, and education. Population or unit based nurse leaders and nursing faculty are in critical demand. This program will equip students to apply principles of population care to targeted groups for the purpose of facilitating health of the aggregate.

Students can enter one of four tracks depending on their population focus or interest. Students who want to concentrate on the health needs of a defined aggregate (aggregates may be defined in many ways. The most common categories are by disease or condition: cardio-vascular patients, pregnant adolescents; lifestyle: substance/alcohol abuse; ethnicity: Native American veterans; or environment: asbestos removal workers etc.) will enter the specialized population track. Students who wish to work with health care issues within a specified unit or clinic will enter into the Clinical Nurse Leader track.

Students who want to work with students, patients, or nurses as learners will enter the education track. Students who want to work with individuals involved in legal proceedings or investigations will enter the forensic track.

#### RESEARCH

The Center for Nursing Research provides resources to faculty and students, including a forum for interdisciplinary research, assistance with proposal development, and identification of funding sources. The departmental partnership with the Visiting Nurse Association of Cleveland also provides

opportunities for collaboration with practitioners in community settings.



#### **DEGREE REQUIREMENTS**

The MSN program at CSU provides unique programs for students that are not generally offered by other neighboring colleges or universities. All students entering the program must have a bachelor's degree in nursing, a license to practice nursing in the state where they plan to do their clinical practicum, and evidence of an undergraduate statistics course.

#### For admission information contact:

Cleveland State University Graduate Admissions Office 2121 Euclid Ave. Cleveland, OH 44115 (216) 687-5599 www.csuohio.edu/gradcollege/

**For program information contact:** School of Nursing, RT 915 (216) 687-3598

http://www.csuohio.edu/nursing/MSN.htm



## **Master of Business Administration**

#### INTRODUCTION

The Master of Business Administration (MBA) program is firmly grounded in sound business theory and taught by world-class professors. At the same time, it delivers practical education through business partnerships that provide opportunities for hands-on experience and access to potential employers. In addition to our main campus, the MBA program is offered at our West Center in Westlake, our East Center in Solon, and at two corporate sites in Mayfield Heights and Brunswick.

#### PROGRAM DESCRIPTION

The MBA program consists of three levels of courses. Level One courses focus on developing quantitative and verbal skills. Level Two courses build a foundation for business through advanced courses in all major business disciplines. Level Three courses focus on the interdisciplinary integration of the knowledge acquired in the program.

#### **Accelerated MBA Program**

Most students with a BBA can waive all Level One and Level Two courses, and earn the MBA degree in 11 months through the Accelerated MBA Program. Students can choose the Extended Campus MBA option and receive the same

excellent education that traditional MBA students receive. However, the Extended Campus MBA is set up in 10-week terms that allow students to complete the program in as few as 15 months, depending on your undergraduate course work.



Students can choose from the convenient locations to pursue their studies.

# RESEARCH and CREATIVE ACTIVITIES

As one of the region's top business schools, we have only the most accomplished business faculty. Each of our MBA professors brings a powerful combination of research-based expertise and professional experience to the program. They are selected for expertise in their disciplines and related experience in business and government. They are actively involved in the community—as business consultants, members of

professional organizations, and community leaders—bringing a richness of practical application to every course they teach.

#### **DEGREE REQUIREMENTS**

The MBA degree is awarded on the basis of successful completion of a minimum of 32 credit hours of Level three courses. Students also choose three electives which can lead to a specialized degree in one of the following disciplines:

- Management and Labor Relations
- Finance
- Information Systems & Technology
- International Business
- Managerial Accounting
- Marketing
- Operations Management and Business Statistics
- Health Care Administration
- Business Economics

# For admission information contact:

Cleveland State University Graduate Admissions Office 2121 Euclid Ave. Cleveland, OH 44115 (216) 687-5599 www.csuohio.edu/gradcollege/

# For program information contact:

College of Business Administration Advising Office Bruce Gottschalk Phone: (216) 687-3730 cbascsu@csuohio.edu



## **Graduate Catalog 2008**

Search the Graduate Catalog 2008:

Index / Table of Contents / Programs and Certificates / Graduate Certificates / Global Business, Graduate Certificate in

#### **Graduate Certificate in**

## **Global Business**



Thomas W. Whipple, Certificate Program Coordinator

#### Introduction

There is a growing demand for professionals who can deal with complex problems in international trade and management. The Graduate Certificate in Global Business provides the opportunity for current graduate business students and those who hold graduate business degrees to enhance their skills in international business practices and management strategies. Credits earned as part of the certificate program may apply toward a graduate degree.

Students who complete the certificate program will be able to:

- Enhance and complement the skills of business professionals who deal with complex problems in international trade, finance, marketing, operations, and strategic management;
- Bring professional knowledge and skills about international business to Northeast Ohio companies that operate in global markets.

#### **Career Information**

The Graduate Certificate in Global Business is designed to prepare business professionals to manage and conduct business in a complex and fast-changing global environment. The Certificate targets current graduate business students and those already holding graduate business degrees by providing them the opportunity to earn formal credentials in the field.

#### **Faculty Research**

More than two dozen faculty members are engaged in international business research projects in various business disciplines. Recent publications include articles in scholarly and professional journals, presentations at national and international professional meetings, and sustained contributions to professional associations.

#### **Admission Information**

Students who are admitted to the certificate program should have completed MBA 602 or an equivalent graduate-level international business course. The certificate program consists of four graduate courses (three required and one elective) for a minimum of 14 credit hours. A minimum of B grade in each course is required to complete the certificate program.

Apply Now: http://www.csuohio.edu/gradcollege/admit/apply.html

#### **Certificate Requirements**

MKT 608 Global Marketing (4 credits)

FIN 621 International Financial Management (4 credits)

OMS 525 International Operations Management & Supply Chain (3 credits)

#### One elective course—select from the following list:

IST 601 IT for Competitive Advantage (3 credits)

MKT 640 Field Experience Abroad (4 credits)

MLR 587 International Management (3 credits)

OMS 624 Global Operations Management (3 credits)

ACT 560 International Accounting (3 credits)

INB 690 Professional Internship International Business (2-4 credits)

INB 696 Special Topics in International Business (including study abroad courses) (1-4 credits)

INB 698 Independent Study (1-4 credits)

#### For Further Information, Contact:

Department of Marketing,

Nance College of Business Administration:

2121 Euclid Avenue, BU 460

Cleveland, Ohio 44115-2214

Phone: (216) 687-4771 FAX: (216) 687-5135

E-mail: marketing@csuohio.edu

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## Cleveland State University

# Graduate Admissions Office

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Cleveland State University Graduate Admissions 2121 Euclid Avenue Parker Hannifin Hall, 2nd floor Cleveland, OH 44115-2214

Campus Location

Parker Hannifin Hall, 2nd floor 2258 Euclid Avenue

Phone: 216.687.5599 Fax: 216.687.5400

**Graduate Admissions Contact** 

Graduate Admissions Office graduate.admissions @csuohio.edu

Phone: 216.687.5599

**Web Content Contact** 

Charles Newton grad@csuohio.edu

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#### **Request Information Form**

Please complete the form below and you will receive a quick response from the Office of Graduate Admissions.

\* = Required Information

#### **Request for the following information:**

#### How did you hear about Cleveland State University?

#### Your Name

#### **Contact Information**

\* Zip Code County Country or Territory

Citizenship Status \* Phone Number \* E-mail Address

#### **Optional Information**

Gender Ethnicity

#### **Program of Interest**

Anticipated Enrollment Date:

Degree or Program:

#### **Requests and/or Comments**

Additional comments or requests? Please type in a brief message.

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## The Higher Learning Commission

Serving the common good by assuring and advancing the quality of higher learning.

A Commission of the North Central Association of Colleges and Schools

#### Search this site:

Currently or Previously Affiliated Institutions - 05/06/2008
-- Back to Institution Directory --

Cleveland State University 2121 Euclid Avenue Cleveland, OH 44115-2214

http://www.csuohio.edu

Chief Executive Officer: Dr. Michael Schwartz, President

Name change notes: Fenn College to Cleveland State University (1966)

HLC Institution ID: 1541

Current Accreditation Status: Accredited

Accreditation Date(s): (1940-.)

Commission Participation: PEAQ PARTICIPANT

Year of Last PEAQ Comprehensive Evaluation: **2000 - 2001** Year of Next PEAQ Comprehensive Evaluation: **2010 - 2011** 

Last Action: 03/07/2007

Legal Status: Public

Degrees Awarded (details below): B, M, D, 1st prof

Stipulations on Affiliation Status:

None

Approval of New Degree Sites:

No prior Commission approval required for offering existing degree programs at new sites within the state.

## Approval of Distance Education Degrees:

Prior Commission approval required for distance education programs other than the MS in Health Sciences and the Master of Education in Curriculum and Instruction-Education Technology.

Repo	rts	Rea	mir	ed:
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None.

Other Visits Scheduled:

None.

## Enrollment Headcount (last updated: 04/10/2008)

	Full-Time	Part-Time
Undergraduate:	6973	2825
Graduate:	1521	3352
Professional:	466	246
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Professional:

## Other Headcounts (last updated: 04/10/2008)

Non-Credit headcount:	3318
Dual enrollment (high school)	168

programs:

### Degree Programs (last updated: 04/10/2008)

	Programs Offered	Degrees Awarded in Last Reported Year
Associate Degrees	0	0
Bachelors Degrees	73	1749
Masters Degrees	50	1492
Specialist Degrees	0	8
First Professional Degrees	2	182
Doctoral Degrees	7	57

Certificate Programs (last updated: 04/10/2008)

Programs Offered Certificates Awarded in

Last Reported Year

Pre-Associate Certificates 0 0
Other Undergraduate Certificate 32 0

Post Baccalaureate Certificates 4 64

Off-Campus Activities (last updated: 04/10/2008) Click here for definitions...

In-State: Campuses: None

Sites: Brunswick (Brunswick Designer Showcases);

Cleveland (Headstart); Concord Township (Auburn Career Center); Elyria (Lorain County Community College); Kirtland (Lakeland

Community College); Kirtland (Lakeland Community College); Mayfield Heights

(Progressive Ins); Painsville (LaMuth Middle School); Solon (East Center); Westlake (West

Center)

Course Locations: 21

Out-of-State: Campuses: None

Sites: None

Course Locations: None

Out-of-U.S.: Campuses: None

Sites: None

Course Locations: None

**Distance Learning** (last updated: 04/10/2008)

This listing is limited to programs that are delivered 100% asynchronously.

Master of Science in Health Sciences (Internet)

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