

Graduate Catalog 2006-2008

Addenda (updated 01/2008)

Changes since the catalog was released...

This page lists academic material which would normally be put in the catalog, but which has been added or changed after the most recent printing of the catalog (Fall of 2006).

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 - [Cleveland State/Cleveland Clinic Cellular and Molecular Medicine Specialization \(revised 09/2006\)](#)
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- Master of Psychology
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- **Urban Affairs**
 - Doctor of Philosophy in Urban Studies and Public Affairs
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- [ACT 611 Financial Accounting: Resources \(addenda revised 12/2006\)](#)
- [ACT 612 Financial Accounting: Equities \(addenda revised 12/2006\)](#)

- **Adult Learning**

- [ALD 688 Internship in Adult Learning and Development \(revised 07/2007\)](#)
- [ALD 689 ALD Portfolio Development \(revised 07/2007\)](#)

- **Biology**

- [BIO 538/738 Clinical Genetics \(new 05/2007\)](#)
- [BIO 588 Museum Studies in Natural History \(new 04/2007\)](#)

- **Chemical Engineering**

- [CHE 578 Introduction to Molecular Simulation \(new 05/2007\)](#)
- [CHE 594 Selected Topics in Chemical Engineering \(revised 08/2007\)](#)
- [CHE 598 Master's Project \(new 08/2007\)](#)
- [CHE 600 Chemistry Teaching \(new 02/2007\)](#)
- [CHE 653 Cell and Tissue Biology for Engineers \(revised 12/2007\)](#)
- [CHE 658 Medical Device Design \(revised 12/2007\)](#)
- [CHE 692 Chemical and Biomedical Engineering Internship \(new 12/2006\)](#)
- [CHE 700 Chemistry Teaching \(new 02/2007\)](#)
- [CHE 753 Cell and Tissue Biology for Engineers \(new 12/2007\)](#)
- [CHE 892 Chemical and Biomedical Engineering Internship \(new 12/2006\)](#)

- **Chemistry**

- [CHM 502 Biochemistry I \(revised 08/2007\)](#)
- [CHM 503 Biochemistry II \(revised 08/2007\)](#)
- [CHM 507 Environmental Toxicology \(new 08/2007\)](#)
- [CHM 541 Pharmacology I \(new 07/2007\)](#)
- [CHM 542 Pharmacology II \(new 07/2007\)](#)
- [CHM 551 Medicinal Chemistry I \(new 07/2007\)](#)
- [CHM 552 Medicinal Chemistry II \(new 07/2007\)](#)
- [CHM 690/790 Annual Research Report \(new 05/2007\)](#)

- **Computer and Information Science**

- [CIS 620 Advanced Operating Systems \(revised 05/2007\)](#)
- [CIS 650 Compiler Design \(revised 04/2006\)](#)

- **Education Counseling**

- [CNS 665 Professional issues in Counseling Psychology \(new 09/2006\)](#)
- [CNS 780 Counseling Psychology Doctoral Practicum 1: Focus on Interventions \(new 09/2006\)](#)
- [CNS 781 Counseling Psychology Doctoral Practicum 2: Focus on Assessment \(revised 04/2006\)](#)
- [CNS 782 Pre-doctoral Internship in Counseling Psychology \(revised 04/2006\)](#)

- **Communication**

- [COM 650/750 Seminar in Urban Communication \(new 05/2007\)](#)
- [COM 660/760 Strategic Communication \(new 05/2007\)](#)
- [COM 670/770 International Negotiation Strategy and Practices \(new 05/07\)](#)

- **Counseling Psychology**

- [CPY 663 Biological Bases of Behavior \(new 04/2005\)](#)
- [CPY 667 History of Psychology \(new 04/2005\)](#)
- [CPY 668 Social Psychology \(new 04/2005\)](#)

- **Civil Engineering**

- [CVE 602 Civil Engineering Internship \(new 05/2006\)](#)
- [CVE 512 Finite Element Analysis I \(revised 06/2007\)](#)
- [CVE 612 Finite Element Analysis II \(revised 06/2007\)](#)

- **Doctor of Physical Therapy**
 - [DPT 598 Special Topics in Physical Therapy Research \(new 10/2007\)](#)
 - [DPT 607 Basic Pharmacotherapeutics \(new 10/2007\)](#)
 - [DPT 620 Medical Screening and Imaging \(new 10/2007\)](#)
 - [DPT 630 Foundational Theory and Evidence Based Practice \(new 10/2007\)](#)
 - [DPT 638 Life-span Development \(new 10/2007\)](#)
 - [DPT 642 Functional Anatomy for Physical Therapists \(new 10/2007\)](#)
 - [DPT 650 Physical Therapy Theory & Practice I \(new 10/2007\)](#)
 - [DPT 652 Physical Therapy Theory & Practice II \(new 10/2007\)](#)
 - [DPT 654 Physical Therapy Theory & Practice III \(new 10/2007\)](#)
 - [DPT 662 Physical Therapy Interactions I \(new 10/2007\)](#)
 - [DPT 664 Physical Therapy Interactions II \(new 10/2007\)](#)
 - [DPT 666 Physical Therapy Interactions III \(new 10/2007\)](#)
 - [DPT 672 Physical Therapy Management of Complex Conditions I \(new 10/2007\)](#)
 - [DPT 674 Physical Therapy Management of Complex Conditions II \(new 10/2007\)](#)
 - [DPT 681 Physical Therapy Professional Issues in Clinical Education I \(new 10/2007\)](#)
 - [DPT 683 Physical Therapy Professional Issues in Clinical Education II \(new 10/2007\)](#)
 - [DPT 686 Applied Physical Therapy I \(new 10/2007\)](#)
 - [DPT 692 Physical Therapy Scientific Inquiry \(new 10/2007\)](#)
 - [DPT 756 Physical Therapy Theory & Practice IV \(new 10/2007\)](#)
 - [DPT 758 Physical Therapy Theory And Practice V \(new 10/2007\)](#)
 - [DPT 768 Physical Therapy Interactions IV \(new 10/2007\)](#)
 - [DPT 772 Physical Therapy Management of Complex Conditions III \(new 10/2007\)](#)
 - [DPT 774 Physical Therapy Management of Complex Conditions IV \(new 10/2007\)](#)
 - [DPT 776 Physical Therapy Management of Complex Conditions V \(new 10/2007\)](#)
 - [DPT 778 Physical Therapy Management of Complex Conditions VI \(new 10/2007\)](#)
 - [DPT 785 Physical Therapy Professional Issues in Clinical Education III \(new 10/2007\)](#)
 - [DPT 786 Applied Physical Therapy II \(new 10/2007\)](#)
 - [DPT 788 Applied Physical Therapy III \(new 10/2007\)](#)
 - [DPT 790 Physical Therapy Administration and Management I \(new 10/2007\)](#)
 - [DPT 793 Physical Therapy Administration and Management II \(new 10/2007\)](#)
 - [DPT 844 Health Behavior and Social Responsibility \(new 10/2007\)](#)
 - [DPT 872 Physical Therapy Management of Complex Conditions VII \(new 10/2007\)](#)
 - [DPT 886 Applied Physical Therapy IV \(new 10/2007\)](#)
 - [DPT 887 Physical Therapy Professional Issues in Clinical Education IV \(new 10/2007\)](#)
 - [DPT 888 Applied Physical Therapy V \(new 10/2007\)](#)
 - [DPT 895 Physical Therapy Administration and Management III \(new 10/2007\)](#)
- **Early Childhood Education**
 - [ECE 502 Teaching Methods in Early Childhood Education \(revised 01/2007\)](#)
- **Economics**
 - [ECN 582 International Economics \(revised 04/2006\)](#)
 - [ECN 585 Economics of Development and Growth \(revised 01/2007\)](#)

- **Education – Foundation**
 - [EDB 505 Teaching and Management in the Secondary School \(revised 06/2007\)](#)
 - [EDB 511 Seminar on Classroom Inquiry \(New 04/2007\)](#)
- **Education and Secondary Education**
 - [EDC 520 Teaching Mathematics with Technology \(new 05/2007\)](#)
 - [EDC 521 Assessment in Mathematics Education \(new 05/2007\)](#)
 - [EDC 522 Practicum in Mathematics Intervention \(new 05/2007\)](#)
- **Literacy Development and Instruction**
 - [EDL 507 TESOL Methods and Materials \(revised 06/2007\)](#)
- **Electrical Engineering**
 - [EEC 592 Special Topics in Electrical Engineering \(new 12/2006\)](#)
 - [EEC 602 Electrical Engineering Internship \(new 12/2006\)](#)
 - [EEC 626 Software Engineering Project \(new 05/2007\)](#)
 - [EEC 646 Dynamics and Control of Mems \(new 12/2006\) \(revised 11/2007\)](#)
 - [EEC 688 Secure and Dependable Computing \(new 12/2006\)](#)
 - [EEC 746 Dynamics and Control of Mems \(new 12/2006\) \(revised 11/2007\)](#)
 - [EEC 788 Secure and Dependable Computing \(new 12/2006\)](#)
 - [EEC 802 Electrical Engineering Internship \(new 12/2006\)](#)
- **English**
 - [ENG 610 MFA Fiction Workshop \(new 05/2006\)](#)
 - [ENG 611 MFA Fiction Workshop \(new 05/2006\)](#)
 - [ENG 612 MFA Playwriting Workshop \(new 05/2006\)](#)
 - [ENG 613 MFA Poetry Workshop \(new 05/2006\)](#)
 - [ENG 614 MFA Special Topics Workshop \(new 05/2006\)](#)
 - [ENG 615 MFA Craft and Theory \(new 10/2007\)](#)
 - [ENG 616 MFA Literature \(new 10/2007\)](#)
 - [ENG 690 MFA Internship \(new 05/2006\)](#)
- **Environmental Studies**
 - [ENV 551 Environmental Finance and Capital Budgeting \(new 07/2007\)](#)
 - [ENV 593 \(1-4 credits\) \(new 10/2007\)](#)
- **Engineering Science**
 - [ESC 694/794 Selected Topics in Engineering Science \(new 05/2007\)](#)
 - [ESC 694/794 Selected Topics in Engineering Science \(revised 10/2007\)](#)
- **Education Technology**
 - [ETE 501 Technology Strand \(revised 06/2007\)](#)
- **Environmental Engineering**
 - [EVE 571 Aquatic Ecosystems Laboratory \(new 04/2007\)](#)
 - [EVE 602 Environmental Engineering Internship \(new 05/2006\)](#)
- **Specialized Study and Field Experience Courses**
 - [EST 503 – EST 699 \(new 10/2006\)](#)
 - [EST 570 Practicum in Early Childhood Education \(revised 01/2007\)](#)
 - [EST 574 Practicum in Foreign Language \(revised 10/2007\)](#)
 - [EST 575 Practicum in Speech and Hearing Therapy \(revised 01/2007 & revised 06/2007\)](#)
 - [EST 577 Practicum in Visual Arts Education \(revised 10/2007\)](#)
 - [EST 580 Student Teaching in Early Childhood Education \(revised 01/2007\)](#)
 - [EST 594 Student Teaching in Foreign Language \(revised 10/2007\)](#)
 - [EST 597 Student Teaching in Multi-Age Art \(revised 10/2007\)](#)
- **Finance**
 - [FIN 673 CFA Level I Preparation \(new 07/2007\)](#)
- **First Ring Leadership**
 - [FRL 630 Capstone Conference \(deleted 05/2007\)](#)
 - [FRL 633 Organizational Leadership Survey \(new 05/2007\)](#)
 - [FRL 636 Organizational Leadership Capstone \(new 05/2007\)](#)

- **Health Care Administration**
 - [HCA 500 Decision Modelling and Statistics for Healthcare Managers \(revised 04/2006\)](#)
 - [HCA 516 Seminar in Health Policy and Quality \(revised 04/2006\)](#)
 - [HCA 640 Health Care Law and Ethics \(revised 04/2006\)](#)
 - [HCA 660 Integrative Business Strategy for Health Care Administrators \(revised 04/2006\)](#)
 - [HCA 690 Administrative Internship \(revised 04/2006\)](#)
- **Health Education**
 - [HED 559 Principles of Health Education \(new 04/2007\)](#)
 - [HED 585 Worksite Health Promotion \(new 04/2007\)](#)
 - [HED 587 Eating Disorders \(new 04/2007\)](#)
- **History**
 - [HIS 502 US Slavery, Abolition and Politics, 182-1860 \(revised 05/2007\)](#)
 - [HIS 515 Radicals and Reformers in 19th C. \(revised 02/2007\)](#)
 - [HIS 518 History of the Family in America \(**Deleted 05/2007**\)](#)
 - [HIS 519 History of US Tourism \(revised 05/2007\)](#)
 - [HIS 527 American Sexual Communities and Politics \(revised 10/2007\)](#)
 - [HIS 579 Collective Survival in the African Diaspora \(new 02/2007\)](#)
 - [HIS 586 History of the Middle East to 1798 \(new 06/2006\)](#)
 - [HIS 599 Public History Internship \(new 02/2007\)](#)
- **Health, Physical Education, Recreation, and Dance**
 - [HSC 511 Service Learning in Occupational Therapy \(new 03/2007\)](#)
 - [HSC 515 Musculoskeletal Evaluation and Intervention \(new 03/2007\)](#)
 - [HSC 527 Neuromuscular Evaluation and Intervention \(revised 03/2007\)](#)
 - [HSC 560 Interdisciplinary Team Development \(new 10/2007\)](#)
- **Industrial Engineering**
 - [IME 510 Advanced Engineering Statistics \(new 05/2007\)](#)
 - [IME 520 Applied Engineering Design \(revised 04/2007\)](#)
 - [IME 575 Systems Simulation \(revised 04/2007\)](#)
 - [IME 663 Competitive Manufacturing Management \(revised 04/2006\)](#)
- **International Business**
 - [INB 690 Professional Internship in International Business \(new 12/2007\)](#)
 - [INB 696 Special Topics in International Business \(new 12/2007\)](#)
 - [INB 698 Independent Study \(new 12/2007\)](#)
- **Mechanical Engineering**
 - [MCE 524 Applied Heat Transfer \(new 09/2006\)](#)
- **Marketing**
 - [MKT 501 Marketing Management \(revised 7/2007\)](#)
 - [MKT 601 Marketing Strategy \(revised 7/2007\)](#)
 - [MKT 800 Doctoral Seminar in Measurement and Scaling \(revised 08/2007\)](#)
 - [MKT 801 Doctoral Seminar in Marketing Theory \(revised 08/2007\)](#)
 - [MKT 802 Global Seminar in Global Marketing \(revised 08/2007\)](#)
 - [MKT 803 Doctoral Seminar in Marketing Strategy \(revised 08/2007\)](#)
 - [MKT 804 Doctoral Seminar in Multivariate Techniques in Marketing \(revised 08/2007\)](#)
 - [MKT 805 Doctoral Seminar in Consumer Behavior \(revised 08/2007\)](#)
- **Engineering Mechanics**
 - [MME 512 Finite Element Analysis I \(revised 06/2007\)](#)
 - [MME 612 Finite Element Analysis II \(revised 06/2007\)](#)
- **Public Health**
 - [MPH 608 Public Health Practice and Issues \(new 01/2008\)](#)
- **Music**
 - [MUS 516 Collaborative Piano and Accompanying \(new 5/2006\)](#)
 - [MUS 552 Career in Composition \(new 2/2007\)](#)

- **Non-profit Administration & Leadership**
 - [NAL 501 Fundamentals of Applied Reasoning \(new 06/2007\)](#)
 - [NAL 510 Proposal Writing and Program Development \(new 06/2007\)](#)
 - [NAL 550 Institutional Development of the Nonprofit Organization \(new 06/2007\)](#)
 - [NAL 593 Special Topics in Nonprofit Administration and Leadership \(new 08/2007\)](#)
 - [NAL 594 Levin Chair Seminar \(new 10/2007\)](#)
 - [NAL 601 Applied Quantitative Reasoning I \(new 06/2007\)](#)
 - [NAL 602 Applied Quantitative Reasoning II \(new 06/2007\)](#)
 - [NAL 603 Public Finance and Economics \(new 06/2007\)](#)
 - [NAL 604 Organizational Behavior \(new 06/2007\)](#)
 - [NAL 630 Public Human Resources Management \(new 06/2007\)](#)
 - [NAL 651 Fund Raising and External Relations for Nonprofit Organizations \(new 06/2007\)](#)
 - [NAL 652 Financial Administration and Control of Nonprofit Organizations \(new 06/2007\)](#)
 - [NAL 656 Capstone Seminar in Nonprofit Leadership and Management \(new 06/2007\)](#)
 - [NAL 693 Special Topics in Nonprofit Administration and Leadership \(new 08/2007\)](#)
- **Nursing**
 - [NUR 520 Curriculum Development in Nursing \(new 05/2006\)](#)
 - [NUR 626 Practicum in Nursing Education \(new 5/2006\)](#)
 - [NUR 627 Issues and Trends in Nursing Education \(new 5/2006\)](#)
- **Operations Management and Business Statistics (OMS)**
 - [OMS 513 Production Planning and Control \(revised 06/2006\)](#)
 - [OMS 806 Strategic Supply Chain Management \(new 01/2008\)](#)
 - [OMS 804 Supply Chain Models \(new 10/2007\)](#)
- **Public Administration**
 - [PAD 515/600 Introduction to Public Administration \(new 05/2007\)](#)
 - [PAD 516/603 Public Finance and Economics \(new 05/2007\)](#)
 - [PAD 517/617 Public Administration and the Political Process \(new 05/2007\)](#)
 - [PAD 518/630 Public Human Resources Management \(new 05/2007\)](#)
 - [PAD 571 Conflict Management \(new 07/2007\)](#)
 - [PAD 572 Negotiation and Conflict Management \(revised 10/2007\)](#)
 - [PAD 635 Public Sector Information Management \(revised 08/2007\)](#)
 - [PAD 693 Special Topics in Nonprofit Administration and Leadership \(new 08/2007\)](#)
- **Urban Planning Design & Development**
 - [PDD 510 Proposal Writing and Program Development \(new 07/2007\)](#)
 - [PDD 611 Planning Studio \(revised 06/2007\)](#)
 - [PDD 572 Negotiation and Conflict Management \(revised 10/2007\)](#)
 - [PDD 577 Regional Issues and Planning \(revised 11/2007\)](#)
- **Sport Management, Physical Education, and Exercise Science**
 - [PED 583 Media Literacy Across the Curriculum \(new 05/2007\)](#)
- **Philosophy**
 - [PHL 544 Bioethics and Biotechnology \(new 05/2007\)](#)
- **Political Science**
 - [PSC 529 Politics and Political Economy of the European \(new 09/2006\)](#)
 - [PSC 635 Public Sector Information Management \(revised 08/2007\)](#)

- **Psychology**
 - [PSY 528 Intellectual Assessment and Practcum in School Psychology \(new 09/2006\)](#)
 - [PSY 531 Computer Applications of Advanced Statistics \(new 04/2007\)](#)
 - [PSY 538 Intellectual Assessment and Practcum for Clinical Psychology \(revised 09/2006\)](#)
 - [PSY 564 Psychoeducational Intervention \(revised 12/2006\)](#)
 - [PSY 631 Job Analysis and Performance Management \(new 12/2006\)](#)
- **Speech Pathology and Audiology**
 - [SPH 535 Organization and Administration of a Public School Speech and Hearing Program \(new 09/2006\)](#)
 - [SPH 539 Advanced Practicum in Speech- Language Pathology \(revised 06/2007\)](#)
 - [SPH 549 Advanced Speech and Language Development \(new 12/2006\)](#)
- **Social Work**
 - [SWK 695 Health Care Practice, Planning, & Policy Issues \(revised 10/2007\)](#)
- **Urban Studies**
 - [UST 572 Negotiation and Conflict Management \(revised 10/2007\)](#)
 - [UST 577 Regional Issues and Planning \(revised 11/2007\)](#)
 - [UST 802 Frameworks of Inquiry \(revised 10/2006\)](#)

Accreditation (Accreditation Change approved Fall 2007)

Cleveland State University is accredited by The Higher Learning Commission, a commission of the North Central Association of Colleges and Schools. For more information, contact the 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 programs hold the following professional accreditations:

Business Administration: DBA, BBA and MBA programs of the 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.

Deleted: The Health Care Administration program is accredited by the Accrediting Commission on Education for Health Services Administration

Cleveland State University

Graduate Admission Application Deadlines

In general, the Application for Graduate Admission to degree, certificate, and licensure programs, and all supporting materials (e.g., official transcripts, test scores, letters of recommendation) must be on file in the Office of Graduate Admissions at least six weeks prior to the start of the academic term of desired admission.

Intended Enrollment	2006-2007 Academic Year		2007-2008 Academic Year	
	Application Deadline	Classes Start	Application Deadline	Classes Start
Fall	July 17, 2006	August 26, 2006	July 16, 2007	August 25, 2007
Spring	December 4, 2006	January 13, 2007	December 3, 2007	January 12, 2008
Summer	April 9, 2007	May 19, 2007	April 7, 2008	May 17, 2008

Programs with Earlier Application Deadlines

Program	Deadline (Completed files)	Comments
Accelerated MBA	June 1 & November 1	Fall and spring admission respectively
Chemistry (PhD., MS)	January 15	
Computer and Information Science (MCIS)	March 15 & May 15	International applicants summer and fall respectively
Doctor of Business Administration (DBA.)	February 1	Fall admission only
Education Counseling Specialization	August 31 st	Spring admission only
Executive MBA	June 15	Fall admission only
Nursing	March 1	Consult Nursing Chapter.
Occupational Therapy (MOT)	May 15	Fall admission only
Physical Therapy (MPT)	November 1	Spring admission only
Physics	April 1	
Psychology:		
Clinical/Counseling Psychology	February 15	Fall admission only
Consumer/Industrial Research	February 10	Fall admission only
Diversity Management	May 31	Fall admission only
Experimental Research	March 1	Fall admission only
Psychology Specialist (PsyS)	February 10	Fall admission only
Public Health (MPH)	January 15	Fall admission only
Social Work (MSW)	February 28	Fall admission only
Speech Language Pathology	March 1	Fall admission only
Urban Education (Ph.D.)	First Monday in February	Fall admission only
Urban Studies and Public Affairs (Ph.D.)	January 15	Fall admission only

Non-Degree Applicant Deadline

For non-degree graduate admission, the application deadline is ten business days prior to the start of the entry term. Non-degree applicants are encouraged to apply online and well in advance of the deadline to avoid possible delays.

Non-Degree Applicants

Non-degree applicants are not required to pay an application fee. Non-degree status is limited to individuals who hold bachelor's or advanced degrees; non-degree students cannot earn graduate degrees or certificates via non-degree status. Non-degree students are registered on a space-available basis and are responsible for meeting all course prerequisites. **Applicants must hold an earned baccalaureate degree from a fully accredited academic college or university. Applicants must submit proof of receipt of a baccalaureate (or higher) degree. The proof may take the form of an official or unofficial transcript with the degree posted or a diploma. Photo copies of transcripts and diplomas will not be accepted to verify receipt of the prior degree(s).** **Individuals who have earned their bachelor's degree from an institution outside of the U.S. must submit their International credentials (official transcripts and diploma/degree in the native language and English translations prepared by a certified translator) for an evaluation and provide official test results of an English-language proficiency examination.** Individuals with International credentials who have earned bachelor's degrees or higher from a U.S. institution where English is the primary language of instruction are not required to submit results of an English-language proficiency examination.

Deleted: There is a one-time, non-refundable \$30 graduate application fee for non-degree study

Deleted: Non-degree applicants who have earned their bachelor's degree from an accredited U.S. institution are not required to submit transcripts

However, if the Non-Degree student later requests admission to a graduate degree, certificate, or licensure program a \$30 Graduate application fee is required. The student must submit an updated application for the degree, certificate, or licensure program and all required admission materials to the Graduate Admissions Office before an admission decision will be rendered.

Deleted: Non-degree applicants who subsequently desire graduate degree, certificate, or licensure status will be required to resubmit an Application for Graduate Admission and complete the appropriate application process.¶

Graduate Degree, Certificate, and Licensure Applicants

Applicants will be considered for admission to a specific graduate degree, certificate, or licensure program when the Graduate Admissions Office has received the following materials:

1. Complete *Application for Graduate Admission*.
2. Non-refundable application fee: \$55 for the MOT, MPT, and MSN programs; \$30 for all other programs.
3. An official transcript from all colleges and universities attended other than Cleveland State University (the Graduate Admissions Office will obtain copies of Cleveland State transcripts). For graduate applicants who earned their undergraduate degree from Cleveland State University, and those who received undergraduate transfer credit for work taken at another institution, the Graduate Admissions Office will secure the applicant's undergraduate transcripts from the Cleveland State University Registrar, if the transfer credit was awarded since 2002. Transcripts must bear the seal of the issuing institution and be sent by the institution to the Cleveland State Office of Graduate Admissions.
4. Two letters of recommendation to be received by the Office of Graduate Admissions. For exceptions to this requirement, consult the Admissions section and individual program description in the *Catalog*.
5. Official test score results as required by the College of Graduate Studies and/or the specific graduate program. Test score reports must be sent by the testing agency directly to the Office of Graduate Admissions.

Applicants admitted may defer their initial entrance date for up to one academic year with permission of the appropriate graduate program director. Under the following conditions, applicants are required to re-apply for graduate admission after a one-year period (the Office of Graduate Admissions does not retain admission credentials for denied or incomplete applications beyond one year):

- Applicants who were denied admission.
- Applicants with incomplete graduate admission files.

Degree applicants interested in graduate assistantships should consult the sections on "Financial Aid" and "Graduate Assistantships" in this catalog. For further assistantship information, contact the Graduate Program Director of the academic program of interest. Additional financial aid information is available from the Cleveland State Financial Aid Office at (216) 687-3764.

Return all application materials to:

Office of Graduate Admissions
2121 Euclid Avenue RTW204
Cleveland, OH 44115-2214 USA

Campus Location:
Rhodes Tower West, Room 204
(Entrance at Chester Avenue and East 21st Street)

Phone (216) 687-5599
Fax (216) 687-5400

www.csuohio.edu/gradcollege

Admission Procedures for Graduate Degree Applicants

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

1. **Application:** A completed application must be submitted not less than six weeks prior to the term of desired entrance. Consult the admission requirements in individual program descriptions in this Catalog for further information.

To facilitate the admission process, it is strongly recommended that applicants use the online application system. An application form may be downloaded from www.csuohio.edu/gradcollege. The processing time for paper application forms is longer than that for online applications. For a listing of programs with earlier application deadlines, consult the chart on page 26.

2. **Official Transcripts:** At the time of application, applicants should request that every college or university previously attended send one official transcript to the Office of Graduate Admissions (the Graduate Admissions Office will obtain official Cleveland State University transcripts). For graduate applicants who earned their undergraduate degree from Cleveland State University, and those who received undergraduate transfer credit for work taken at another institution, the Graduate Admissions Office will secure the applicant's undergraduate transcripts from the Cleveland State University Registrar, if the transfer credit was awarded since 2002. The Registrar cannot guarantee the availability of undergraduate transfer credit transcripts from prior to 2002. Graduate applicants who were granted Cleveland State University undergraduate transfer credit prior to 2002 need to request that all Colleges and Universities attended previously send official transcripts to the Office of Graduate Admissions. For applicants who have not yet been awarded their baccalaureate (or higher) degree, a second official transcript with the degree posted also must be submitted to the Graduate Admissions Office before an admitted student will be permitted to register for classes. Transcripts must be received in the Graduate Admissions Office directly from the originating institutions.
3. **Letters of Recommendation:** Not required by all programs. Applicants should consult program descriptions. When required, provide recommendation forms (download from www.csuohio.edu/gradcollege/forms.htm) to individuals serving as references. Usually, at least one of the recommendations should come from a college professor familiar with the applicant's academic work.

Applicants to the Doctor of Business Administration (DBA) program and the Master of Social Work (MSW) program, and those pursuing initial licensure in Curriculum and Instruction—Urban Secondary Teaching 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:

- Accountancy (MAcc)
- Business Administration (MBA)
- [Civil Engineering](#)
- Computer and Information Science (MCIS)
- Education (MEd) (except Counseling programs)
- [Environmental Engineering](#)
- Labor Relations and Human Resources (MLRHR)
- Mathematics (MA and MS)
- Mechanical Engineering (MS)

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4. **Official Test Scores:** Submit results of the appropriate admission examination, as required by the College of Graduate Studies and/or the graduate degree program. Examination results over six years old at the time of application are not considered valid and will not be accepted. Only official test scores received directly from the testing service will be accepted.
5. **Applicants whose native language is other than English,** who have received their undergraduate degree from an institution where English is not the language of instruction, are required to take a standard English language proficiency examination. Proficiency examination options are detailed in this Catalog.
6. **Application Fee:** Submit payment for the required, non-refundable \$30 Graduate Application Fee. The Master of Occupational Therapy, Master of Physical Therapy and Nursing programs have a \$55 application fee. Admission decisions will not be rendered until the fee is paid.

No application fee is required of applicants who have paid an application fee earlier for admission as a graduate degree, certificate, licensure, or non-degree student.

Approved October, 2007

Provisional Graduate Students

A Provisional graduate student is one who has failed to submit all necessary application materials, but who meets 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 Provisional admission. The Student admitted provisionally is not 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 being accepted for graduate study on a Regular, Conditional, or Provisional basis, the graduate student should confer with the appropriate departmental advisor to plan a program of study. Subsequent changes to the plan of study should be made only with advisor approval.

Transient Student Admission

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There are two categories of transient students: 1) those enrolled in a graduate program at another college or university who wish to undertake a limited amount of graduate work at Cleveland State University; and 2) those enrolled in a graduate degree program at Cleveland State who wish to do 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 Cleveland State degree, certificate, and licensure students.

1. A student from outside Cleveland State University seeking transient status at Cleveland State must complete the home institution's Graduate Transient Application form and receive approval from the home institution to enroll for specified courses. The approval form and a check for \$15, (non-refundable) payable to Cleveland State University, should be forwarded to the Cleveland State University Graduate Admissions Office. 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. A Cleveland State student who wishes to attend another institution is required to consult with his or her program advisor and/or department chair and complete a Cleveland State University Graduate Student Transient Approval form. Only students who are in good academic standing in their degree programs qualify for transient student status. Forms may be downloaded at www.csuohio.edu/gradcollege and also are available from the Office of Graduate Admissions, Rhodes Tower West, Room 204.

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 University graduate certificate or licensure programs.)

Admission Requirements for Non-Degree Students

1. Applicants must hold an earned baccalaureate degree from a fully accredited academic college or university. Applicants must submit proof of receipt of a baccalaureate (or higher) degree. The proof may take the form of an official or unofficial transcript with the degree posted or a diploma. Photo copies of transcripts and diplomas will not be accepted to verify receipt of the prior degree(s).
2. Baccalaureate degrees earned outside of the United States must be equivalent to baccalaureate degrees earned in the United States. International applicants and Permanent Residents of the United States who received their undergraduate (and graduate) degrees outside of the United States must submit official transcripts and diplomas for evaluation to be considered for Non-Degree graduate admission.
3. The University requires all nonnative 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, in which the primary language of instruction is 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 of this Catalog.
4. Submit a completed application form and proof of holding a baccalaureate (or higher) degree to the Graduate Admissions Office. Applicants are strongly advised to submit an online application to facilitate processing their requests for Non-Degree admission. Applicants submitting paper application forms must allow additional processing time for their requests.
5. Non-Degree applicants are not required to pay an application fee. However, if the Non-Degree student later requests admission to a graduate degree, certificate, or licensure program, a \$30 Graduate application fee is required. The student must submit an updated application for the degree, certificate, or licensure program and all required admission materials to the Graduate Admissions Office before an admission decision will be rendered.

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Application Deadline

For Non-Degree graduate admission, the application deadline is ten business days prior to the start of the term. However, Non-Degree applicants are encouraged to apply well in advance of the deadline to avoid possible delays.

Submitting Non-Degree Application Materials

Office of Graduate Admissions Rhodes Tower West 204 Cleveland State University 2121 Euclid Avenue Cleveland, Ohio 44115-2214
Telephone (216) 687-5599 Fax (216) 687-5400 E-mail: graduate.admissions @csuohio.edu www.csuohio.edu/gradcollege

Visiting Graduate Students

The University provides an opportunity for individuals who hold a baccalaureate (or higher) degree to enroll in graduate courses without admittance to the University. The Visiting Student status is designed for those who want to take graduate courses for professional growth and/or personal enrichment. Visiting graduate students are not permitted to enroll in Cleveland State University graduate degree, certificate, or licensure programs.

Enrollment Conditions

1. Receipt of an earned baccalaureate degree from a fully accredited academic college or university. An official transcript showing receipt of a baccalaureate (or higher) degree is not required.
2. Submit a completed Visiting Graduate Student Enrollment Request form to the Office of the University Registrar.
3. Students must meet course prerequisites unless waived by the instructor. In some cases, program authorization is also required.
4. Students are permitted to enroll (with permission and space permitting) only in those courses specifically designated as open to Visiting Students. A listing of open courses may be found at <http://www.csuohio.edu/gradcollege/admit/procedures/opencourses.htm>.
5. Visiting Students are graded on a letter grade basis unless otherwise dictated by individual programs. Exceptions are made only if the student requests Audit or S/U status at the time of registration or within the first week of classes. Students must perform at the B or better level to receive an S grade.
6. Visiting Students may not earn a graduate degree, certificate, or license awarded by the University. A Visiting graduate student who wishes to be considered for admission to a graduate degree, certificate, or licensure program must complete a Graduate Admission Application form and submit all credentials required for admission to the graduate degree, certificate, or licensure program. To be considered for degree, certificate, or licensure admission, the Visiting Student must have a Cleveland State University graduate grade-point average of at least 3.0.
7. Visiting graduate students are not eligible for Graduate Assistantships or Graduate Tuition Grant awards.

A Visiting Graduate Student who at a later time is admitted as a degree-seeking student may be permitted, with program approval, to apply a maximum of four graduate credits of Visiting student course work toward fulfillment of degree requirements. A student may not petition for an extension of the four credit limit.

Enrollment Conditions for Non-Degree Students

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 also required.
2. Students are permitted to enroll in classes on a space-available basis. Priority is given to graduate degree, certificate, and licensure students when enrollment is limited.
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 at the time of registration or 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 license awarded by the University.
5. Non-degree graduate students are permitted to register for a total of twelve (12) credits. After reaching the twelve credit limit, non-degree graduate students must inform the Graduate Admission office if they
 - a. wish to be considered for admission to a graduate degree, certificate, or licensure program, or
 - b. they wish to continue their studies on a non-degree basis. An indication of the intentions of a non-degree graduate student after reaching the twelve credit limit must be submitted by the student to the Graduate Admissions office in writing.
6. Non-degree graduate students are not eligible for Graduate Assistantship or Graduate Tuition Grant awards.

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Admission Examination Requirements for International Students [See individual Program Requirements](#)

Graduate Degree Program	Examination	Score Requirement
Accountancy	GMAT	See program description
Biology (MS and Ph.D.) No minimum required*	GRE	General plus Subject (Biology or Biochemistry);
Business Administration (MBA and DBA)	GMAT	See program description
Chemistry (MS and Ph.D.)	GRE	No minimum required*
Communication	GRE or MAT	50th percentile General, GRE; 50th percentile MAT
Computer and Information Science	GRE or GMAT	See program description
Economics	GRE	No minimum required*
Education:		
MEd	GRE or MAT	50th percentile General, GRE; 50th percentile MAT
Ph.D.	GRE	See program description
Engineering:		
Doctoral Program (DEng)	GRE	80th percentile Quantitative
Chemical Engineering (MS)	GRE	80th percentile Quantitative
Civil Engineering (MS)	GRE	80th percentile Quantitative
Electrical Engineering (MS)	GRE	80th percentile Quantitative
Engineering Mechanics (MS)	GRE	80th percentile Quantitative
Environmental Engineering (MS)	GRE	80th percentile Quantitative
Industrial Engineering (MS)	GRE	See program description
Mechanical Engineering (MS)	GRE	80th percentile Quantitative
English	No examination requirement; writing sample required	
Environmental Sciences (MS)	GRE	50th percentile General
Environmental Studies (MA)	GRE	50th percentile General
Health Sciences	GRE	50th percentile General
History recommended	GRE	50th percentile General required, and Subject
Labor Relations and Human Resources	GRE or GMAT	See program description
Music	GRE	50th percentile Verbal only
Nursing	GRE or MAT	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
Psychology:		
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	GRE	See program description
Speech Pathology	GRE or MAT	50th percentile General

Urban Planning, Design, and Development	GRE	50th percentile General
Urban Studies:		
MS	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~~

Change of Grade

Changes Approved by Graduate Council October, 2006

Once the Office of the University Registrar receives a letter grade, a faculty member may change the grade (1) because of an error in computation; (2) due to a recording error; or (3) because of circumstances he or she deems “extraordinary” which bears on the appropriateness of the grade awarded. A change of grade request for a graduate course requires the approval of the Dean of the College of Graduate Studies.

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Grade Dispute Procedure

Changes Approved by Graduate Council October, 2006

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 forty-five 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 if possible in a three-way conference) to try to resolve the dispute. Any student who is not satisfied with the outcome of the meeting with the instructor and the department chairperson may continue the dispute by petitioning the College of Graduate Studies Grade Dispute Committee. In such cases, the chairperson must promptly transmit a copy (paper or electronic) of all submitted documents, including the chair's recommendation concerning the dispute, to the College of Graduate Studies 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. Both the student and the involved faculty member are expected to be present at the hearing.

The recommendation of the College of Graduate Studies 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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Re-Admission (Effective Summer 2006)

An academically dismissed student who is readmitted to the same graduate program, or enters a different graduate program, will again be dismissed by the College of Graduate Studies if the individual receives in 400-800 level courses:

- a) one or more grades of "F" or
- b) two or more grades of "B-" or less

Programs may impose more stringent grade performance requirements on students, but such academic performance requirements must be stated clearly in readmission letters that are forwarded to the Graduate Admissions Office for consideration.

An academically dismissed degree, certificate, or licensure student who has been separated from the University for twelve or more months may request permission to be re-admitted to his or her prior program. Such requests are reviewed and acted upon by the Graduate Program Committee of the unit.

Students who seek admission to a program other than the program from which they were academically dismissed must submit an application for admission to the new graduate program. The Graduate Admissions Office will forward a copy of the student's admission file to the Program Director of the new program.

An academically dismissed student who has been separated from the University for less than twelve months may petition for early re-admission. To be considered for early re-admission, a petition must be submitted to the unit's Graduate Program Committee. The committee shall act on the petition and present its recommendations to the College of Graduate Studies Petitions Committee, whose decision shall be final.

An academically dismissed non-degree student must petition the College of Graduate Studies Petitions Committee for re-admission consideration. Petition forms may be downloaded from the College of Graduate Studies Web site at http://www.csuohio.edu/grad_college/student/pdf/PetitionForm.pdf. They are also available from the College of Graduate Studies and the Graduate Admissions Office (Rhodes Tower West, Room 204).

A graduate student who receives a second academic dismissal from the University is not eligible for further graduate study at the University.

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Deleted: These re-admission 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 must submit an application for admission to the new graduate program. The Graduate Admissions Office will forward a copy of the student's admission file to the Program Director of the new program.

Information Systems (IST) Major [\(course deletion\)](#)

www.csuohio.edu/cba/academic/doctoral/dba-infosys.html

Preparatory Requirements

Applicants for the DBA degree with an Information Systems specialization must have either an MBA or a master's degree in Information Systems or a closely related field. Students who do not have an MBA and/or lack sufficient IS background should take the preparatory courses below. The exact sequence is determined by the student's advisor.

Business Preparatory Requirements

ACT 501 Financial Accounting (3 credits)

FIN 501 Financial Management (3 credits)

MKT 501 Marketing Theory and Practice (3 credits)

MLR 511 Organizational Behavior (3 credits)

OMS 503 Statistical Methods for Business Decisions (3 credits)

IST Preparatory Requirements

IST 602 Advanced Programming of Business Systems (4 credits)

70 / Business Administration

Cleveland State University

IST 603 Systems Analysis and Methods (4 credits)

IST 604 Modern Database Design and Implementation (4 credits)

IST 606 Management of Business Networks (4 credits)

Preparatory courses may be waived based upon the background of the student.

Major Courses

IST 800 Research Design and Measurements (4 credits)

IST 801 Foundations of Information Systems (4 credits)

IST 802 Seminar in Information Systems Current Topics (4 credits)

IST 803 Knowledge Management (4 credits)

IST 891 Doctoral Research in Information Systems (1-5 credits)

IST 895 Dissertation Research Seminar (3 credits)

IST 896 Current Problems in Information Systems (1-5 credits)

IST 899 Dissertation (1-5 credits)

Deleted: MLR 891 Doctoral Research in Management and Labor Relations (1-12 credits) ¶
MLR 895 Dissertation Research Seminar (3 credits) ¶
MLR 896 Current Problems in Management and Labor Relations (1-4 credits) ¶
MLR 899 Dissertation (1-12 credits) ¶

Specialization

Within the MBA curriculum, specialization can be achieved by taking three elective courses (no more than one at the 500 level) within any of the following business disciplines: Accounting, Finance, 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 descriptions.

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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

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The MCIS Program

The MCIS program consists of thirty-one semester hours of approved courses for students who complete a graduate thesis, or thirty-three hours for those who do not. Prior to satisfactory completion of the entire preparatory program, no course may be taken toward the fulfillment of the graduate degree requirements without prior written permission of the student's advisor.

Students whose native language is not English must take ~~ESL 415902 (ESL Reading & Presentation Skills)~~ if their verbal score on the GMAT or GRE is below the 20th percentile. ~~ESL 415901~~ must be completed in the first semester after enrolling in the MCIS Program. Students who score at the 20th percentile or above need not take ~~ESL 415901~~.

Deleted: GAD 501 (Business English) and GAD 502

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[Submitted March, 2007](#)

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Admission Information

Students with a wide range of backgrounds are encouraged to enroll in the program. Applicants who may be interested in pursuing this course of study include those who hold undergraduate degrees in:

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

In addition to the College of Graduate Studies standards for admission, applicants for the MLRHR program must meet the following requirements:

1 A total of at least 950 points based on the following formula: 200 times the cumulative undergraduate grade-point average plus the Graduate Management Admission Test (GMAT) score, or the average score of the verbal and quantitative components of the Graduate Record Examination (GRE). [For students accepted as regular graduate students in the MLRHR Program beginning with Fall Semester 2007 and thereafter, the entrance standard will be 1000 points.](#) All applicants are required to take either the GMAT or GRE and submit results before being considered for admission.

MLR 641 Employment Planning, Personnel Selection, and Training (3 credits)
MLR 651 Collective Bargaining (3 credits)

3. Elective Courses (12 credits)

Students select an additional twelve credit hours to complete the requirements for the degree. Elective course selections must be made with the consent of the student's program advisor. Two elective courses must be at the 600 level.

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

MLR 504 Organizational Theory and

Design (3 credits) MLR 511 Labor History (3 credits) MLR 521 Comparative Labor Systems (3 credits) MLR 523 Labor Relations in Public Employment (3 credits) MLR 555 Labor-Management Cooperative Practices (3 credits) MLR 577 Managerial Skill Development (3 credits) MLR 604 Interpersonal Relations and Group Dynamics (3 credits) MLR 605 Organizational Development (3 credits)

MLR 607 Total Quality Management/Continuous Quality Improvement (4 credits)

MLR 645 Information Systems in Human Resource Management (4 credits)

MLR 686 Current Problems in Management and Labor Relations (3 credits)

MLR 690 Professional Internship (1-3 credits) MLR 698 Independent Study (1-3 credits)

Electives offered outside of the department include such courses as:

ADM 642 Collective Bargaining and Contract Management (2 credits) ALD 605 Psychology of the Adult Learner (3 credits) ALD 645 Organizational Behavior and Change (4 credits) COM 544 Mediation and CB Problem

Solving (4 credits) LAW 629 Labor Law (3 credits) LAW 633 Arbitration (3 credits) LAW 696 Alternative Dispute Resolution

(3 credits) PAD 630 Public Human Resources Management (3 credits) PSY 518

Personnel Psychology (4 credits) SOC 588 Sociology of Work and Organization (4 credits)

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

4. Practice assessment examination.

All students admitted into the MLRHR program after Summer 2004 are required to purchase and take the online HRCI assessment examination in their last semester of study. Scores from this practice assessment examination will be used as part of an ongoing MLRHR program review. Students documenting current PHR or SPHR certification may have this requirement waived.

Internships

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

Non-Degree Students

Non-degree students are strictly limited to a maximum of twelve credits taken on a graduate non-degree basis. Non-degree students are only permitted to enroll in the following courses: MLR 501, MLR 577, OMS 500, OMS 503, GAD 501, GAD 502, and ECN 503, with the permission of the Department Chair. Admission requirements for non-degree students are the same as stated above, including GRE/ GMAT requirements. Successful completion of courses within the allowable twelve credit hours does not waive the admission requirement of 950 points. [Students must have a cumulative grade point average of 3.0 or better in all graduate courses taken at Cleveland State University to be admitted as a regular graduate student, regardless of the points achieved in undergraduate grade point and test scores.](#)

Academic Standards

The MLRHR 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.

For More Information

Please contact the Department of Management and Labor Relations for more information by phone, (216) 687-4754; fax, (216) 687-4708; or visit the department Web site at <http://www.csuohio.edu/cba/mlr/index.html>.

Specialization approved May 2007

History: Specialization in Museum Studies

The History Department in cooperation with the Art Department and the Levin College of Urban Affairs offers an interdisciplinary program that leads to a Master of Arts degree in History with a specialization in Museum Studies.

The program is broad in scope rather than highly specialized. Depth in a specialized area is achieved through HIS 599 Internship in History, HIS 695 Research Seminar, and the 500-level elective course.

Admissions Information

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

Degree Requirements

Students are required to complete a total of thirty-two (32) credit hours in approved courses with at least a 3.0 grade-point average.

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

Requirements

1. 28 credit hours in the following required courses:

- HIS 601 Introduction to Graduate Study in History (4 credits)
- ART 505 Introduction to Museology (4 credits)
- HIS 511 Introduction to Public History (4 credits)
- PAD 651 Fundraising for Non-Profits (4 credits)
- PAD 652 Financial Administration for Non-Profits (4 credits)
- HIS 599 Internship in History (4 credits)
- HIS 695 Research Seminar (4 credits)

2. One additional course (4 credit hours) in consultation with the Graduate Director and the Coordinator of History Internships. Possibilities include but are not limited to:

- HIS 504 US Urban History
- HIS 506 History of Ohio
- HIS Indians in American History
- HIS 512 17th Century America
- HIS 519 US Tourism
- HIS 529 Black Resistance in the Age of Jim Crow

Counseling Psychology

Counseling Psychology requires prior Master's study in counseling, psychology, or a closely related field. This specialization trains counseling psychologists who have the requisite knowledge base and therapeutic skills for entry into the practice of professional psychology and competent practice within a multicultural diverse urban society, and will contribute to and/or apply the scientific knowledge base of psychology using skills in research methods. This curriculum meets academic prerequisites for eligibility for licensing as a psychologist in the State of Ohio.

Required (52 credits)

General Psychology Core (15 Credits)

CPY 663	Bio Bases of Psychology (3 credits)
CPY 667	History of Psychology (3 credits)
CPY 668	Social Psychology (3 credits)
CNS 712	Theories of Personality and Counseling (3 credits)
EDU 811	Seminar in Cognitive and Intellectual Development (3 credits)

Professional Core in Counseling Psychology (37 Credits)

CNS 665	Professional Issues (3 credits)
CNS 702	Individual Intelligence Testing (3 credits)
CNS 703	Personality Assessment (3 credits)
CNS 738	Family Counseling (3 credits)
CNS 825	Advanced Career Development: Theory and Practice (3 credits)
CNS 826	Fundamentals of Supervision and Consultation (4 credits)
CNS 888	Research & Evaluation in Counseling (4 credits)
CNS 780	Doctoral Practicum in Counseling Psychology I (6 credits)
CNS 781	Doctoral Practicum in Counseling Psychology II (6 credits)
CNS 782	Predoctoral Internship in Counseling Psychology (2 credits)

**Revised Catalogue Descriptions: New and Revised Courses
Counseling Psychology Specialization
In the Ph.D. Program in Urban Education**

NEW COURSES

CNS 665 Professional issues in Counseling Psychology (3cr)

Prerequisite: Admission to the counseling psychology This course educates first year doctoral students in the requirements and expectations of doctoral study in the counseling psychology specialization. Its primary purposes are to (a) facilitate students' transition to full time doctoral study in counseling psychology, (b) to introduce students to the discipline of counseling psychology -- its history, development, and current status, (c) to acquaint students with contemporary issues affecting research, practice, and training within the discipline, (d) to encourage preliminary independent inquiry into topics of interest within the field, and (e) to educate students on professional ethics for psychologists, the need for standards and accountability, ethical decision-making models, policies and procedures, and responsibility and rehabilitation.

CNS 780 Counseling Psychology Doctoral Practicum 1: Focus on Interventions (6 cr)

This course is the first field experience for doctoral students in counseling psychology that provides students with opportunities to develop therapeutic skills in counseling and psychotherapy interventions with community clients under supervision. It aims to help student develop skills in assessing client needs and implementing empirically supported interventions with diverse clients. Students are expected to complete 2 consecutive semesters in this course and to comply with all legal and ethical standards of the profession.

Prerequisites: Admission to Ph.D. Program in counseling psychology and successful completion of the first year of the doctoral program in counseling psychology

CPY 667 History of Psychology

Prerequisites: Admission to the Counseling Psychology Specialization or permission of the instructor

The purpose of this course is to provide students with an overview of the historical events that have helped shape the field of psychology. During this course we will discuss how various philosophical perspectives, major theories, important research, and other events have influenced the development of our field. Historical events will be linked to current issues in psychology. As part of the course we will discuss ways in which diversity and multicultural issues have been historically addressed and neglected in psychology

CPY 663 Biological Bases of Behavior

Prerequisites: Admission to the Counseling Psychology Specialization or permission of the instructor

This class will provide an introduction to the physiological processes related to behavior, an overview of physiological psychology and the latest relevant research on gene expression. The nervous, sensory, and hormonal systems will be studied in their relationship to psychological phenomenon. The relevance of the material to substance abuse and dependence and neural correlates of mental/emotional disorders.

CPY668 Social Psychology

Prerequisites: Admission to the Counseling Psychology Specialization or permission of the instructor

This course is designed to introduce graduate students to social psychology theory, concepts, and research. A broad range of theoretical topics will be covered, including social cognition and perception, attitudes, influence, social identity, interpersonal relationships, prosocial behavior, and aggression. Issues of diversity such as prejudice and intergroup relations will also be included. The relevance of these social psychology concepts as foundations for the practice of counseling psychology will be addressed.

MODIFIED COURSES

CNS 781 Counseling Psychology Doctoral Practicum 2: Focus on Assessment (6 cr)

Prerequisites: Admission to the counseling psychology specialization and successful completion of CNS 780

This course is the second year field experience for doctoral students in counseling psychology that provides opportunities to develop assessment skills, skill in using the DSM, and skill in using psychological tests in mental health settings. Students will gain skill in assessing the problems clients from diverse populations bring to psychotherapy and understand the relationship between assessment and treatment planning. Students are expected to complete 2 consecutive semesters in this course and to comply with all legal and ethical standards of the profession.

CNS 782 Pre-doctoral Internship in Counseling Psychology (2 -4cr)

Prerequisites: Completion of all Ph.D. coursework in counseling psychology, comprehensive examinations, language requirements, and a successful dissertation proposal hearing

The final educational experience in the doctoral program involves placement in a one-year full time internship or two-year half time internship under the supervision of a licensed psychologist, working with clients in psychotherapy and related therapeutic activities. A minimum of 2000 hours is required and the Director of Training in Counseling Psychology must approve placement.

School Administration (approved November 8, 2006)

The School Administration specialization requires as a prerequisite a master's degree in administration and leads to a state license for various administrative positions.

Required 8 credits

ADM 831 Implementing Public Policy in Schools and Universities (4 credits)

ADM 889 Advanced Seminar in Administration (4 credits)

At least 12 additional credit hours selected from courses such as:

ALD 606 Modern Higher Education in a Changing Society (4 credits)

ALD 645 Organizational Behavior and Change (4 credits)

ADM 618 Staff Personnel Administration (2 credits)

ADM 642 Collective Bargaining and Contract Management (2 credits)

ADM 643 School Finance and Economics (4 credits)

ADM 652 School Business Management and School Facilities (4 credits)

ADM 674 Special Education Law (4 credits)

ADM 676 Clinical Supervision and Professional Development (4 credits)

ADM 677 Legal and Policy Issues in Education (4 credits)

ADM 811 The School Superintendency (4 credits)

ADM 830 Evaluating Educational Policy Making at the Federal and State Levels (4 credits)

ADM 833 Seminar in Urban Education (4 credits)

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Deleted: ADM 833 Seminar in Urban Education (4 credits) ADM 889 Advanced Seminar in Administration (4 credits) ¶

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Admission Information

The following requirements must be met by each candidate applying to the master's program:

- 1 Fulfillment of College of Graduate Studies 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 specialization areas. An area of specialization must be noted on the admission application form.
- 3 Request that previously attended colleges and universities 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 ~~at the 50th percentile or above~~ on the Miller Analogies Test, or a score at the 50th percentile or above 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 is 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 is at least 3.0; OR
 - c. The student has completed twelve or more semester credits of Cleveland State graduate course work (including EDB 601 or HPR 601) AND received a grade of B or better in each course.

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Upon formal admission to the College, students must prepare a Program of Study with the assistance of an assigned advisor.

Note: Before completing an admission 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 1401, telephone (216) 687-4625.

To facilitate the admission process, it is strongly recommended that applicants use the online application system at www.csuohio.edu/admissions/gradForm.html. The processing time for paper application forms is longer.

Educational Research

(32 credits)

The Educational Research specialization is designed to ground students in applied research methodology in education. Unlike other programs that specialize in particular content areas, the Educational Research program provides students with research skills that can be applied in any field of education. A background in research methods can also be a valuable asset in social sciences like psychology or sociology. Students who are interested in how to evaluate research reports and create valuable and trustworthy knowledge in education should consider this specialization. Strong research skills are also beneficial for students who desire to pursue doctoral studies in education and the social sciences.

Program of Study College Core

(11 credits)

Educational Research and Technology

EDB 601 Educational Research (3 credits)
ETE 501 Technology Strand (2 credits)

Social Foundations

Select one of the following courses:

EDB 604 Social Issues and Education (3 credits)
EDB 606 Philosophy of Education (3 credits)
EDB 608 School and Society in the American Past (3 credits)
EDB 609 Comparative and International Education (3 credits)

Human Development

Select one of the following courses:

EDC 501 Child Development (3 credits)
EDB 620 Psychology of the Adolescent Learner (3 credits)
EDB 628 Psychology of Learning and Instruction (3 credits)

Curriculum and Instruction Core

EDB 612 Curriculum Theory and Instruction (3 credits)

Specialization

(12 credits)

EDB 701 Advanced Educational Research (4 credits)
EDB 711 Educational Evaluation and Innovation (4 credits)
EDU 715 Applied Programming and Data Analysis with Statistical Packages (4 credits)

Culminating Activity~~(4-6 credits)~~

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Select one of three options: comprehensive examination (with minimum of 4 additional credits of electives),
EDB 698 Project (6 credits) or EDB 699 Thesis (6 credits).

Gifted and Talented Learners

(33 credits) The specialization in Gifted and Talented Learners is designed for previously certified/licensed teachers seeking an endorsement as an intervention specialist who teach gifted and talented learners. In addition, this degree or credential may allow teachers to work as Gifted Coordinators in many school districts. The multi-dimensional program provides training in meeting the needs of a broad range of gifted learners including culturally diverse children, females, those with dual exceptionalities (LD/Gifted, ADD/Gifted, etc.), underachievers, and those with special talents. The program provides opportunities for interested individuals to develop knowledge and skills in cultivating creativity and dealing with children's families and other professionals regarding gifted issues. Graduates are adept at understanding the continuum of services from which teachers and schools can choose to meet the needs of gifted, talented, high achieving and high performing students in a variety of settings. Participation in the program enhances classroom teaching skills, counseling skills, individualized intervention skills, as well as collaboration and leadership skills within the broader educational community.

Program of Study College Core

(12 credits)

Educational Research and Technology

EDB 601 Educational Research (3 credits)
ETE 501 Technology Strand (2 credits)

Social Foundations

Select one of the following courses:

EDB 604 Social Issues and Education (3 credits)
EDB 606 Philosophy of Education (3 credits)
EDB 608 School and Society in the American Past (3 credits)
EDB 609 Comparative and International Education (3 credits)

Human Development

EGT 512 Nature and Developmental Needs of Learners with Gifts and Talents (4 credits)

Curriculum and Instruction Core

(3 credits)
EDB 612 Curriculum Theory and Instruction (3 credits)

Specialization

(18 credits)
EGT 513 Curriculum, Teaching Strategies, and Evaluation for Learners with Gifts and Talents (4 credits)
EGT 517 Creativity, Inquiry, and Productive Thinking (4 credits)
EGT 518 Working with Students with Gifts and Talents, Their Families, and Other Professionals (3 credits)
EGT 519 Using Computers with Students with Gifts and Talents (3 credits)
EGT 580 Practicum in Gifted and Talented Education (4 credits)

Culminating Activity

Select one of the four options: teacher research study (conducted as part of EGT 580, which must be completed with a grade of B or better), comprehensive examination, project, or thesis.

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School Nurse Licensure Program (Program Temporarily Suspended – Students are asked to check the status of the Licensure Program in May 2007)

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 licensure student to register for courses. Upon completion of these courses, students must apply for licensure through the Education Student Services Center of the College of Education and Human Services (Rhodes Tower 1401, telephone (216) 687-4625). An overall grade-point average of 2.5 must be maintained throughout the program.

Course requirements are based on the National School Nurse Roles and Standards. Course work (24 to 26 credits minimum) must be distributed in the following areas:

Comprehensive School Health Program

HED 560 Foundations of a Coordinated School Health Program (4 credits) NUR 550 Legal Issues in School Nursing (2 credits)

Comprehensive School Health Education Delivery

HED 561 Methods and Materials for Health Education (3 credits)
(Prerequisite: HED 551 or HED 560, or equivalent)

Children with Special Needs and School Assessment

NUR 530 Health Assessment Strategies of the School-Aged Child and Child with Special Needs (3 credits) NUR 532 Health Assessment of the School-Aged Child and Child with Special Needs Laboratory (2 credits)

Community Health Collaboration

HED 551 Organization and Administration of Community Health Programs (4 credits)

Research

NUR 360 Nursing Research (2 credits) or NUR 310 if taken during summer
Elective (2 credits) Based on individual needs following transcript review.

Practicum for School Nurses

HPR 679, HPR 680, or HPR 681 Practicum (2, 3, or 4 credits, respectively). Clinical and field-based experiences, including a practicum for at least ten weeks, to ensure proficiency in performing the duties of a school nurse. School nurses with two years of full-time experience can complete 2 credits; all others must complete 3 or 4 credits. At least two-thirds of the course work must be completed. Includes a seminar and the development of a professional portfolio.

Specialization Approved September, 2007

P-6 Mathematics Specialist Endorsement

Master's degree and Endorsement – 33-34 credits

Endorsement Only – 19-20 credits

The P-6 Mathematics Specialist Program is designed to provide in-service certified teachers with the opportunity to improve their conceptual understanding of a range of mathematics contents (i.e. number, measurement, geometry, probability and data analysis, algebra and calculus). In addition, the program intends to consider and evaluate the philosophy, principles, practices and problems encountered in P-6 grade mathematics instruction. In line with the College of Education and Human Services model, practicing teachers will engage in mathematical inquiry through activities including problem solving, reasoning, communication, connection and representation during all of the mathematics related courses. They will be actively engaged in implementing inquiry teaching principles and engaging in self-reflection on learning to assess, intervene, and lead new teachers as well as low achieving students in mathematics during field-based and research courses. Issues of curriculum design and implementation will be considered, as well as issues of diversity, equity, and use of technology in the classroom.

The P-6 Mathematics Specialist Endorsement is a graduate level program where students can earn a master's degree and an endorsement or the endorsement alone. Standard admission requirements apply to the program. Individuals seeking endorsement as a PreK-6 Mathematics Specialist must already hold a standard two year provisional or five year professional teaching license in Ohio.

In addition, the following mathematics courses or equivalent courses taken from other accredited institutions are prerequisites to enrollment in all specialization courses within the program:

MTH 326: *Numbers/Patterns/Operations for Middle School Teachers*

MTH 327: *Algebra/Functions for Middle School Teachers*

MTH 328: *Geometry for Middle School Teachers*

MTH 329: *Data Analysis/Probability for Middle School Teachers*

To ensure adequate content knowledge across all grades covered by this PreK-6 endorsement, participants will need to take (or have taken) mathematics methods courses for both early childhood (ECE 415/515 or equivalent) and middle childhood (EDM 415/515 or equivalent).

Program of Study

Core

(14 credits, not required for Endorsement Only)

Educational Research and Technology

EDB 601 Educational Research 3 credits

ETE 501 Technology Strand 2 credits

Social Foundations

EDB 604 Social Issues and Education 3 credits

Human Development

One of the following courses:

EDC 501 Child Development 3 credits

EDB 628 Psychology of Learning and Instruction 3 credits

Curriculum and Instruction

EDB 612 Curriculum Theory and Instruction 3 credits

Curriculum Evaluation/Supervision/ Teacher Leadership

(4 credits, required for master's degree and endorsement)

One of the following courses:

ADM 615	Instructional Leadership	4 credits
EDB 711	Educational Evaluation and Innovation	4 credits
ADM 676	Clinical Supervision and Professional Development	4 credits

Area of Specialization

(15 or 16 credits, required for master's degree and endorsement)

Prerequisites Mathematics courses are: MTH 326, MTH 327, MTH 328, MTH 329 or equivalents

EDC 515	Instructional Development in mathematics Education	4 credits
EDC 520	Mathematics Instruction with Technology	2 credits
EDC 521	Assessment in Mathematics Education	3 credits
EDC 522	Practicum in Mathematics Intervention	3 credits
ECE 515	Mathematics Instruction in Preschool and primary grades	3 credits
	OR	
EDM 515	Teaching Mathematics in the middle school	4 credits

Administration (with or without licensure). Interested students should contact the First Ring Leadership Academy Office at (216) 687-9209 to arrange contact with an advisor.

Organizational Leadership (New May 2006)

Cleveland State University's College of Education and Human Services Masters of Education with a Specialization in Organizational Leadership is an interdisciplinary course of study drawing from the Colleges of Business, Urban Affairs, Liberal Arts and Sciences, and Education and Human Services. Graduates of this program will be able to make executive decisions as school leaders having learned best leadership practices from other fields. Graduates, who have successfully completed the 39 credit program and who have passed the required Praxis II exam, may be endorsed for principal licensure through Cleveland State University.

This program is job-embedded and school-based, providing graduates with hands-on school leadership experiences from a local, regional, national, and global perspective. Throughout the program, students may elect to volunteer in area institutions that make up the fabric of their community. Students will be required to compile a portfolio of work, documenting their field-based research, as well as their coursework. Key areas explored in the program are management and organizational behavior, ethics, local history, school law, city management, conflict management, and public relations in a school setting.

Applicants must meet the requirements of and be admitted to the Cleveland State University College of Graduate Studies.

Counselor Education Program

Admission Information [Change Approved May 2007](#)

The applicant must hold a master's degree in engineering or in a related science discipline, such as chemistry, physics, or mathematics, or an MD. At least one degree (baccalaureate or master's) must be in engineering. [In Exceptional cases, applicants to the Applied Biomedical Engineering specialization \(see below for program description\) may be considered without an engineering degree if they have a strong foundation in calculus, physics, and chemistry or biology, before entering the program.](#) A minimum master's grade-point average of 3.25 is required

Applied Biomedical Engineering (ABE) Specialization [Change Approved May 2007](#)

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 Cleveland State and The Cleveland Clinic Foundation. The Department of Chemical and Biomedical Engineering at Cleveland State 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 [or closely related](#) discipline, before entering the ABE program. The high-level course work and research empower the students to become productive employees immediately after graduation. ABE graduates are expected to:

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Degree Requirements (Change approved September, 2007)

The doctoral degree includes the following specific requirements:

1. A minimum of sixty-one 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 (4 credits)

ESC 704 Applied Engineering Analysis II (4 credits)

ESC 706 Applied Engineering Analysis III (4 credits)

or, subject to prior approval by the Program Graduate Affairs Committee

ESC 794 Selected Topics in Engineering Science (1-4 credits)

Cleveland State/Cleveland Clinic Cellular and Molecular Medicine Specialization (CMMS)

Depending on their research interests, applicants to the Ph.D. program may wish to consider participation in the Cellular and Molecular Medicine Specialization, an interdisciplinary initiative linking the resources of the three Cleveland State/ Cleveland Clinic 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 Cellular and Molecular Medicine Specialization is not an independent academic program and does not replace existing doctoral programs. Students must fulfill the requirements for their Ph.D program.

The Cellular and Molecular Medicine Specialization 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 Cellular and 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 major contributors 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 Cellular and Molecular Medicine Specialization makes available several graduate assistantships to allow outstanding candidates to concentrate on their research for two years.

The Cellular and Molecular Medicine Specialization is administered by the Biomedical and Health Institute (BAHI) of Cleveland State University. Additional details about the CMMS can be obtained at: www.csuohio.edu/bahi

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Master of Science in

Electrical Engineering

(changes approved)

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January 19, 2007

Department of Electrical and Computer Engineering

Stilwell Hall 332
(216) 687-2589
www.csuohio.edu/electrical_engineering/

George Kramerich, Interim Chair
Chansu Yu, Graduate Program Director

Deleted: F. Eugenio Villaseca, Chair

The Faculty

Current faculty information can be located on the Department of Electrical and Computer Engineering Web site.

Introduction

The Master of Science in Electrical Engineering program integrates theory and applications. Courses are typically 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 those who do not plan formal studies beyond the master's degree.

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

Facilities

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, and 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.

- **Distributed Computing Systems Laboratory**—Equipped with Pentium Xeon dual-processor servers, Pentium Dual-core workstations, and a number of laptops. The research is focused on studying the security, dependability, and concurrency of enterprise-distributed computing systems and platforms, such as CORBA and Web services.
- **Mobile Computing Research Laboratory**—Equipped with a number of laptops, more than ten PDAs (iPAQs), a dozen wireless sensor nodes, and high performance network simulators. Studies energy efficiency, capacity, mobility support, and interoperability issues in wireless networks, such as mobile ad hoc networks, wireless sensor networks, wireless mesh networks, and pervasive computing systems.
- **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, create prototypes, 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 Communication Research Laboratory**—Equipped with electronics and communications instruments, high-speed workstations, and computer -simulation packages (such as Matlab-Simulink) to conduct research projects in digital modulations, error-control codes, satellite communications, mobile wireless communications, and spread-spectrum communications.
- **Digital Systems Research Laboratory**—Equipped with work-stations 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; a state-of-the-art DSP development system used to generate digital control algorithms for power converters in combination with electric machines; and 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.
- **Computer Networks Laboratory**— Equipped with sixteen workstations and one server computer running the Linux operating system, four Cisco routers, and numerous switches. This lab is used to conduct various computer network experiments and projects, for example, ARP, DHCP, Internet routing, TCP performance evaluation, and IP multicast. It is fully reconfigurable, a luxury that few universities provide.

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Cleveland State University

- **Distributed Computing Systems Laboratory**—Equipped with eight Pentium Xeon dual-processor sixty-four-bit servers. This lab is used to conduct various distributed computing systems experiments and projects. Examples include cluster computing, grid computing, peer-to-peer computing, fault tolerant computing, and Web services.
Laboratories at the NASA Glenn Research Center for students supported by NASA.

Faculty Research and Publications

The members of the Electrical and Computer Engineering faculty are engaged in research in a number of 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 published regularly in refereed journals, such as Transactions of IEEE and IEE Proceedings, and are presented at scholarly conferences and symposia.

Financial Assistance

The Department of Electrical and Computer Engineering offers a number of research and teaching assistantships and graduate 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.

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 3.0 is usually 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 3.0.
- The year of the baccalaureate degree precedes the date of application to the College of Graduate Studies by more than six years.

International students should refer to the section earlier in this Catalog for more information. If the GRE is required a minimum score at the 80th percentile on the Quantitative section is normally required.

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There is a preparatory program designed for students without a sufficient background in electrical engineering.

To facilitate the admission process, it is strongly recommended that applicants use the online application system at www.csuohio.edu/admissions/gradForm.html. The processing time for paper application forms is longer.

Preparatory Program

Graduate students with undergraduate degrees not in Electrical Engineering must complete the following list of courses in addition to the requirements for the MSEE degree. This program is intended to prepare students for graduate courses in electrical engineering. Students who previously took one or more equivalent course can have the corresponding requirements waived with prior authorization by the program.

<u>Bachelors Graduate</u>	<u>Bachelors Graduates in</u>	<u>Bachelors in Engineering</u>
<u>other than Engineering</u>	<u>Electronic Technology</u>	<u>(not Electrical Engineering)</u>

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<u>EEC 250</u>	<u>EEC 250</u>	
<u>EEC 310 & 311</u>	<u>EEC 311</u>	<u>EEC 311</u>
<u>EEC 313</u>		<u>EEC 313</u>
<u>EEC 315 or 381</u>		<u>EEC 315 or 381</u>
<u>EEC 361</u>	<u>EEC 361</u>	<u>EEC 361</u>
<u>EEC 380</u>		<u>EEC 380</u>
<u>EEC 440, 450, 470 04 480</u>	<u>EEC 440, 450, 470, or 480</u>	<u>EEC 440, 450, 470 or 480</u>

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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.

Degree Requirements

Students in the MS in Electrical Engineering program may elect a thesis option or a non-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 College of Graduate Studies requirements and the following departmental requirements:

Program Options

1. All students

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- a. 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.
- b. The seminar course EEC 601 and 400-level courses may not be applied for credit toward the MS degree.
- c. Students must take at least four course subjects from their area of specialization including its core course(s). Areas of specialization and their core courses are Communication Engineering (EEC 512 and EEC 651), Control Engineering (EEC 510), Power System and Power Electronics Engineering (EEC 571 and EEC 574) and Computer Engineering (EEC 581 and EEC 584).
- d. Within the first four weeks of the first semester of his or her master program of study, a student must submit a plan of study that requires the approval by advisor or program committee.

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2. Thesis Option:

- a. A minimum of thirty 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.
- c. Thesis students must give an oral presentation of the thesis.

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3. Non-thesis Option:

- a. A minimum of thirty-two total credit hours, including at least three 600level EEC courses.

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Exit Requirements

Thesis students must follow the Thesis and Dissertation Format Guidelines, available from the College of Graduate Studies. 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 MS in Electrical Engineering program, contact the department at (216) 687-2589.

Deleted: <#>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 may not be applied for credit toward the MS ¶ <#>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. ¶

Graduate Catalog 2006-2008

Master of Science in Software Engineering

An interdisciplinary program with the Department of Computer and Information Science administered by the Department of Electrical and Computer Engineering

Department of Electrical and Computer Engineering

Stilwell Hall 332
(216) 687-2589
http://www.csuohio.edu/electrical_engineering/

Department of Computer and Information Science

Ahuja Hall 344
(216) 687-4760
<http://cis.csuohio.edu>

F. Eugenio Villaseca, Chair, Electrical and Computer Engineering
Santosh Misra, Chair, Computer and Information Sciences
Yongjian Fu, Graduate Program Director

The Faculty

Faculty members from the Department of Electrical and Computer Engineering and the Department of Computer and Information Science participate in the program.

Introduction

The Master of Science in Software Engineering (MSSE) program is the first of its kind in Ohio. It is a joint, interdisciplinary program between the College of Engineering's Department of Electrical and Computer Engineering (ECE) and the College of Business Administration's Department of Computer and Information Science (CIS). The program is the successor to the Graduate Certificate Program in Software Engineering and is intended for both practicing professionals, as well as full-time students in the areas of software engineering, computer engineering, electrical engineering, computer science, or information management.

The program introduces students to current and best practices in the engineering of software systems. A distinguishing feature is its emphasis on the architecture, coding, deployment, management, economics, security, and reliability aspects of software engineering. Students take a project from start to completion, learning the requirements of specific deliverables and the development life cycle. Critical management issues, such as risk assessment, project planning, and market analysis, are also covered. The program exposes students to new technological developments in an advancing field and how to apply their knowledge in the workplace. Graduates meet the demands of industry and address the needs of information technology professionals, in general, and software engineers, in particular.

The Electrical and Computer Engineering Department recently commissioned a new state-of-the-art Software Engineering instructional laboratory, fully equipped with hardware and software

required to meet the needs of all courses in the curriculum. The department also maintains the Software Engineering Research Laboratory to support research. The lab is equipped with desktop computers and servers connected via a LAN. Students have the opportunity to work on cutting-edge research in Software Engineering.

Two major computer facilities are used by the Department of Computer and Information Science to support teaching and 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 which, in turn, is linked to national networks.

Faculty Research

The members of the Software Engineering faculty are engaged in research in several areas suitable for student theses and dissertations. These include software design, component-based software engineering, middleware systems, embedded software, wireless networking, computer architecture, data mining, mobile computing, fault-tolerant computing, computer and network security, peer-to-peer and grid computing, distributed computing, operating systems, languages, algorithm design and analysis, computer graphics and computational geometry, performance evaluation, object-oriented programming, software metrics, program analysis, multimedia computing, and bioinformatics. Results of research in these areas are published regularly in referred journals, such as transactions of IEEE, and are presented at scholarly conferences and symposia.

Financial Assistance

The Department of Electrical and Computer Engineering offers a number of research and teaching assistantships and graduate tuition grants. In addition, internships in local industry are available.

Admission Information

Admission to the program requires a minimum undergraduate cumulative grade-point average of 3.0. The Graduate Record Examination (GRE) and the Test of English as a Foreign Language (TOEFL) are required for all international students.

The GRE is also 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 software engineering, electrical engineering, computer engineering, computer science, or information management.
- The student's undergraduate cumulative grade-point average is below 3.0.
- The year of the baccalaureate degree precedes the date of application to the College of Graduate Studies by more than six years.

Applicants with a bachelor's degree in computer science and computer engineering are encouraged to apply. All applicants must demonstrate prerequisite knowledge in the following areas:

- Data structures and algorithms
- Programming languages
- Databases
- Discrete mathematics
- Probability and statistics
- Computer organization
- Computer networks
- Operating systems

Applicants in related fields will also be considered for admission, but they may be required to take additional prerequisite courses. Credits earned for prerequisite courses cannot be used to meet the MSSE requirements.

To facilitate the admission process, it is strongly recommended that applicants use the online application system at www.csuohio.edu/admissions/gradForm.html. The processing time for paper application forms is longer.

Degree Requirements (Changes approved on April 13, 2007)

Students in the MSSE program may elect a thesis option or a non-thesis option. All students, and particularly those intending to pursue a doctoral degree, are encouraged to select the thesis option.

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1. All students

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The MSSE program is planned around a core of required topics and a number of technical electives. All students must complete the core courses listed below.

2. Thesis option students

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Students are required to take 28 credit hours of course work and 6 hours of thesis, for a total of 34 credit hours.

3. Non-thesis option students

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Students are required to take 32 credit hours of course work and 4 credit hours of Software Engineering Project (EEC 626), for a total of 36 credit hours.

Core Courses

- EEC 521 Software Engineering (4 credits)
- EEC 623 Software Quality Assurance (4 credits)
- CIS 634 Object-Oriented Software Engineering (4 credits)
- CIS 635 Software Engineering Metrics, Economics, and Management (4 credits)

Elective Courses

- CIS 650 Compiler Design (3 credits)
- CIS 675 Information Security (3 credits)
- EEC 517 Embedded Systems (4 credits)
- EEC 522 Modeling and Analysis in Software Systems (4 credits)
- EEC 525 Data Mining (4 credits)
- EEC 530 Digital Signal Processing (4 credits)
- EEC 581 Computer Architecture (4 credits)
- EEC 623 Software Quality Assurance (4 credits)
- EEC 624 Software Testing (4 credits)

EEC 625 Software Design and Architecture (4 credits)
[EEC 626 Software Engineering Project \(4 credits\)](#)
EEC 681 Distributed Computing Systems (4 credits)
EEC 684 Parallel Processing Systems (4 credits)
EEC 687 Mobile Networks (4 credits)
EEC 692 Special Topics in Software Engineering (4 credits)
EEC 695 Individual Problems In Software Engineering (1-4 credits.)
EEC 699 Master's Thesis (1-9 credits)

Only one of the following courses is permitted to count towards degree requirements for the MSSE program:

- CIS 620 Comparative Operating Systems Interfaces (4 credits)
- CIS 630 Enterprise Application Development (4 credits)

Exit Requirements

[For thesis option students,](#) acceptance of the thesis by the thesis committee and passing an oral defense of the thesis are required. Students must follow the Thesis and Dissertation Format Guidelines, available from the College of Graduate Studies.

[For non-thesis option students,](#) successful completion of [EEC 626 Software Engineering Project](#) is required.

For further information about the MS in Software Engineering program, please contact the Department of Electrical and Computer Engineering at (216) 687-2589.

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Graduate Catalog 2006-2008

Master of Occupational Therapy

Department of Health Sciences

Health Sciences 101

(216) 687-3567

www.csuohio.edu/healthsci/ot.html

John Bazyk, [M.S., OTR/L](#), Chair

Glenn Goodman, [Ph.D., OTR/L](#), Graduate Program Director

The Faculty

Current faculty information can be located on the Department of Health Sciences Web site.

Introduction

Occupational therapy, which began in 1917, is a health field that focuses on individuals' 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, 4720 Montgomery Lane, Bethesda, MD 20824-1220; (301) 652-2682. Students must complete a minimum of 79 credits, including 24 weeks (940 hours) of full-time fieldwork in order to be eligible to sit for the national certification examination and to apply for state licensure. The fieldwork must be completed within 24 months after completion of the credits of academic course work. The certifying body for occupational therapists is the National Board for Certification in Occupational Therapy (NBCOT). Note: A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or to attain state licensure.

Faculty Research

The Occupational Therapy Program faculty has 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 City Mission, MetroHealth Medical Center, St. Vincent Charity Hospital, and University Hospitals of Cleveland.

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.

Admission Information

Admission to the program is limited to thirty students. Applications are available August 1 and are due no later than March 15 for Fall Semester admission.

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Admission Criteria

Students must have:

1. A bachelor's degree from an accredited institution.
2. An overall grade-point average of at least 3.0 or a score at the 50th percentile or above in each area of the GRE.
3. A minimum GPA of 2.8 in the most recent forty-eight semester credit hours of course work, and a minimum GPA of 2.8 in natural science courses, with at least two of the science prerequisites taken prior to application.

Procedures for Application

Students must meet all College of Graduate Studies admission requirements and submit to the Graduate Admissions Office an Application for Graduate Admission, the \$55 application fee, and all admission materials (official transcripts, test scores submitted by the testing agency directly to the University, letters of recommendation, etc.).

Deleted: department application packet.

In addition, applicants for the MOT program must:

1. Submit a completed MOT program application directly to the Health Sciences Department (Applications are available from the Health Sciences Department Web site <http://www.csuohio.edu/healthsci/ot/admitapp.pdf>).
2. Complete the Graduate Record Exam (GRE), if the overall undergraduate grade-point average is less than 3.0.
3. Non-native English speakers must demonstrate proof of English-language proficiency. See Admission to the College of Graduate Studies for applicable policies and procedures.
4. Complete all prerequisite courses with a grade of C or better by the end of summer semester of the year of application.

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Students who are enrolled in the Pre-therapy Track of the BSHS degree at Cleveland State University may apply for provisional acceptance into the Master of Occupational Therapy program at any time. The student must complete an intent-to-enroll form that identifies the anticipated year of enrollment into the MOT program. The form also lists the application procedures and academic standards that must be maintained to be eligible for admission into the MOT program. Students must meet with a department advisor to initiate this process.

To facilitate the admission process, it is strongly recommended that applicants use the online application system at www.csuohio.edu/admissions/gradForm.html. The processing time for paper application forms is longer.

Required Prerequisites

1. Pathology (HSC 381, if taken at Cleveland State). 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.
2. Physiology with lab (HSC 422 or BIO 422/423, if taken at Cleveland State). Must be a 300-level or above course. Human or vertebrate physiology is recommended.
3. Human Anatomy with lab (HSC 475 and 457, if taken at Cleveland State). Must be a 300-level or above course. Human cadaver dissection or prosection is recommended.
4. Neurosciences with lab (HSC 476 and 478, if taken at Cleveland State). Study of structure and function of human central and peripheral nervous systems, including vascular components and special senses.
5. Lifespan (PSY 223, if taken at Cleveland State). Examination of human development from infancy to old age preferred.
6. Abnormal Psychology (PSY 345, if taken at Cleveland State). Survey of major psychological disorders and their classification, etiology, and management.
7. Social Science Statistics (PSY 311, if taken at Cleveland State). Content should include measures of central tendency, correlations, t-tests, analysis of variance, nonparametric statistics, application of descriptive and inferential statistics to analysis and interpretation of data in the social sciences, and hypothesis testing.
8. Medical Terminology (HSC 203, if taken at Cleveland State). 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.

Program of Study

The Master of Occupational Therapy curriculum consists of 79 to 81 credits, including 51 credits in the core area, 18 credits of fieldwork, 4 credits of service learning, and 6 to 8 credits of electives. A capstone research project is required as part of the core curriculum. The two-year program begins fall semester. A part-time option is available for students who wish to complete the program in three years.

Students are required to meet with an advisor and select two elective courses as part of the required MOT academic course work. These courses are meant to enhance the students' skills in practice administration and/or teaching. Students are required to participate in 2 of 3 possible service learning classes during the academic portion of the program.

The courses are offered in the following sequence:

Fall Year 1

HSC 506 Medical Conditions and Occupational Function (3 credits)

HSC 516 Occupational Therapy Foundations (4 credits)

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HSC 518 Occupational Development (4 credits)
~~HSC 515 Musculoskeletal Evaluation and Intervention (2 credits)~~
HSC 528 Psychosocial Evaluation and Intervention (3 credits)

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Spring Year I

~~HSC 511 Service Learning in Occupational Therapy (2 credits)~~
HSC 517 Occupational Therapy Theory and Process (3 credits)
HSC 527 Neurological Evaluation and Intervention (3 credits)
HSC 529 Sensory and Cognitive Evaluation and Intervention (3 credits)
HSC 589 Occupational Therapy Research I (3 credits)

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Summer Year I

HSC 560 Interdisciplinary Team Development (3 Credits), or elective
HSC 569 Occupational Environments (3 credits)
HSC 579 Occupational Therapy Administration and Management (3 credits)
Elective

Fall Year II

~~HSC 511 Service Learning in Occupational Therapy (2 credits)~~
HSC 535 Occupation and Participation I (4 credits)
HSC 536 Occupation and Participation II (4 credits)
HSC 558 Occupational Therapy Practicum I (3 credits)
Elective

Spring Year II

~~HSC 511 Service Learning in Occupational Therapy (2 credits)~~
HSC 537 Occupation and Participation III (3 credits)
HSC 559 Occupational Therapy Practicum II (3 credits)
HSC 591 Occupational Therapy Research II (3 credits)
~~Elective~~

Summer Year II

HSC 595 Level II Fieldwork I (6 credits)

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Fall Year III

HSC 596 Level II Fieldwork II (6 credits)

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Graduate Certificate Programs

~~Some~~ interdisciplinary graduate certificate programs are administered through the Department of Health Sciences: Advanced Study in Culture, ~~and~~ Communication, Health Care; Ergonomics/Human Factors; and Occupational and Physical Therapy in the Schools. Detailed information about these programs can be found elsewhere in this Catalog; please refer to the index.

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Doctor of Physical Therapy

Department of Health Sciences

Health Sciences 101
(216) 687-3567

John Bazyk, Chair
Ann Reinthal, DPT Program Director

The Faculty

Current faculty information can be located on the Department of Health Sciences web site.

Introduction

The emphasis of the Doctorate of Physical Therapy (DPT) is to prepare competent entry-level practitioners who are well prepared to meet the demands of the current health care arena. The DPT degree replaces the current Master of Physical Therapy (MPT) degree and will expand the breadth and depth of the MPT program by emphasizing advanced skills in medical screening, differential diagnosis, critical thinking and clinical reasoning and will arm students with an evidence base that validates clinical decisions to support the level of independent practice expected in a direct access environment. The DPT, a clinical doctorate, is differentiated from a Ph.D. by its emphasis on clinical skills and practice issues, not research. However, it is expected that the DPT graduate will be prepared to be a critical consumer of the scientific literature, support clinical research and use research data to design and manage the processes of care. The DPT program is fully accredited by the Commission on Accreditation in Physical Therapy Education.

Faculty Research

Cleveland State University faculty have research specialization in biomechanics, culture and health, epidemiology, exercise physiology, motor learning and control, neurologic disorders, and orthopedics. A state-of-the-art Motion Analysis Laboratory is available for research. Students in the program have an opportunity to work on research with faculty mentors.

Admission Information

Admission to the program is selective and limited. Admissions are conducted once a year beginning in the spring and continuing through fall or until the class is filled. The final deadline for application is November 1. In addition to meeting College of Graduate Studies requirements for admission, applicants to the program must:

- Submit a complete [Application for Graduate Admissions](#) with the [Doctor of Physical Therapy Program supplement application](#), OR, if an international student, submit a graduate application to the [Center for International Services and Programs](#).
- Take the Graduate Record Exam (GRE), with recommended scores of at least 400 verbal and 500 quantitative.
- Demonstrate language proficiency for non-native English speaking applicants. The TOEFL or Michigan test is required. Applicants must have a TOEFL score of 550 or a Michigan test score of 85 to be eligible.
- Attain the minimum of a baccalaureate degree from an accredited college or university in any subject area.
- Attain a minimum grade point average overall of 3.00
- Complete all prerequisite coursework listed below. Attain a minimum prerequisite course grade point average of 3.00. All prerequisite courses must be completed with a letter grade of 'C' or better.
 - a. Physics: two course sequence with laboratories (PHY 221 + 222 or PHY 241 + 242)
 - b. Chemistry: two-course sequence with laboratories (CHM 251/256 + 252/257)
 - c. Cell or general Biology with laboratory (BIO 200/201); must include cell/molecular biology component
 - d. Vertebrate, Human or Mammalian Physiology [junior or senior level] (BIO 422/423 or HSC 422)

- e. Psychology: one course
- f. Social/behavioral sciences: 2 courses
- g. Statistics/research design: one upper level course [junior or senior level] (PSY 311)
- h. Medical Terminology [not calculated in prerequisite grade point average] (HSC 203)
- i. *Human Gross Anatomy with cadaver laboratory (HSC 457/475)
- j. *Neuroscience with laboratory (HSC 476/478)
- k. *General Pathology (HSC 381)

*These courses may also be taken at a graduate level during the fall semester preceding Spring I in the DPT curriculum

Program of Study

The curriculum for the Doctor of Physical Therapy consists of 112 semester credits over three years and nine semesters, including:

1. Eighty academic credits in core areas
2. Twenty-six credits of clinical experience
3. Six credits of elective course work

Program Requirements

Students in the DPT program must be enrolled full-time and complete 9 semesters, including all courses listed in the following sequence. The program begins each year in January.

DPT Curriculum

Spring Year I

DPT 630 Foundational Theory and Evidence Based Practice (2 credits)
 DPT 650 Physical Therapy Theory & Practice I (3 credits)
 DPT 642 Functional Anatomy for Physical Therapists (3 credits)
 DPT 662 Physical Therapy Interactions I (3 credits)
 DPT 681 Physical Therapy Professional Issues in Clinical Education I (2 credits)
 DPT 692 Physical Therapy Scientific Inquiry (3 credits)

Summer Year I

DPT 607 Basic Pharmacotherapeutics (2 credits)
 DPT 620 Medical Screening and Imaging (3 credits)
 DPT 638 Life-span Development (4 credits)
 DPT 652 Physical Therapy Theory & Practice II (3 credits)

Fall Year I

DPT 654 Physical Therapy Theory & Practice III (3 credits)
 DPT 664 Physical Therapy Interactions II (2 credits)
 DPT 666 Physical Therapy Interactions III (2 credits)
 DPT 672 Physical Therapy Management of Complex Conditions I (3 credits)
 DPT 674 Physical Therapy Management of Complex Conditions II (3 credits)

Spring Year II

HSC 560 Interdisciplinary Team Development (3 credits)
 DPT 756 Physical Therapy Theory & Practice IV (2 credits)
 DPT 772 Physical Therapy Management of Complex Conditions III (3 credits)
 DPT 774 Physical Therapy Management of Complex Conditions IV (3 credits)
 DPT 683 Physical Therapy Professional Issues in Clinical Education II (2 credits)
 DPT 790 Physical Therapy Administration and Management I (2 credits)

Summer Year II

DPT 686 Applied Physical Therapy I (6 credits)

Fall Year II

DPT 758 Physical Therapy Theory And Practice V (3 credits)
 DPT 768 Physical Therapy Interactions IV (2 credits)
 DPT 776 Physical Therapy Management of Complex Conditions V (3 credits)

DPT 778 Physical Therapy Management of Complex Conditions VI (3 credits)
DPT 785 Physical Therapy Professional Issues in Clinical Education III (2 credits)
DPT 793 Physical Therapy Administration and Management II (2 credits)

Spring Year III

DPT 786 Applied Physical Therapy II (5 credits)
DPT 788 Applied Physical Therapy III (5 credits)

Summer Year III

DPT 844 Health Behavior and Social Responsibility (3 credits)
DPT 872 PT Management of Complex Conditions VII (2 credits)
DPT 887 PT Professional Issues in Clinical Education IV (2 credits)
DPT 895 Administration and Management III (2 credits)

Fall Year III

DPT 886 Applied Physical Therapy IV (5 credits)
DPT 888 Applied Physical Therapy V (5 credits)

Note: Students must also complete a minimum of 6 credit hours of elective course work during the DPT Program.

Population Health: Nursing Education Track (New Track approved May 2006) **38 credit hours leading to the Master of Science in Nursing Degree**

Introduction

The nursing education track provides nurses in the MSN program with the opportunity to acquire the skills needed for the teaching and clinical supervision of nursing students. Graduates of this program are prepared to teach and clinically supervise nursing students in the care of specifically identified populations or cognate area. For example graduate students may study the health care needs of medical surgical clients as their cognate area and then apply the principles learned in the education track to the instruction of student nurses delivering care to this group of clients. Graduate students will take the core courses in the master's program as well as specialized courses focusing on nursing education: curriculum design and development, instructional design, faculty and student roles, and the evaluation and supervision of nursing student nurses.

Financial Assistance

See Master of Science in Nursing – Financial Assistance

Career Information

The program is designed to prepare graduates for clinical faculty positions in schools of nursing or staff development instructors in health care or related facilities.

Admission Information

See Master of Science in Nursing – Admission Requirements

Degree Requirements

The 38 hour curriculum is structured so that the graduate student will take all of the core courses in the Master of Science in Nursing major. In addition, the graduate student will be required to take courses related specifically to curriculum design and development, instruction, and the evaluation and supervision of nursing students.

Advanced Nursing Knowledge Courses (11 credits)

NUR 502	Theory Development in Nursing (3 credits)
NUR 503	Nursing Research I (3 credits)
NUR 601	Nursing Research II (3 credits)
NUR 602	Health Care Policy (2 credits)

Population Health Courses (13 credits)

NUR 501	Introduction to Population Health (3 credits)
NUR 505	Epidemiology (2 credits)
NUR 604	Nursing of Populations I (4 credits)
NUR 605	Nursing of Populations II (4 credits)

Area of Concentration – Education (14 credit hours)

NUR 520	Curriculum Development in Nursing (3 credits)
NUR 626	Practicum in Nursing Education (4 credits)
NUR 627	Issues and Trends in Nursing Education (3 credits)
ETE 565	Technology in the Classroom (4 credits)

Clinical Placement

Students admitted to Phase II of the graduate program will take NUR 604, NUR 605, and NUR 626, each of which includes a lecture and clinical component. During these learning experiences students will interact with their population in their cognate area, and develop skills and competencies in the application of teaching-learning strategies and the clinical supervision of nursing students.

Population Health: Nursing Executive Track
38 credit hours leading to the Master of Science in Nursing Degree

Introduction

The executive track in the MSN program is designed for individuals who have a minimum of five years of advanced professional experience and a BSN with a master's degree in a discipline other than nursing. The student would be able to apply up to 10 credits from a previous master's degree, as per University guidelines, provided the credit hours are applicable to the MSN curriculum. Course sequencing would allow the student to earn the degree in one calendar year

Financial Assistance

See Master of Science in Nursing – Financial Assistance

Admission Information

See Master of Science in Nursing – Admission Requirements

Degree Requirements

The 38 hour curriculum is structured so that the graduate student will take all of the core courses in the Master of Science in Nursing major. In addition the student will develop an individual program of study with the program director based on previous experience and educational preparation. Students may be able to demonstrate achievement of program and course objectives, in part, through portfolio submission. Portfolio submission requires course enrollment but may allow students to meet course objectives based on individual professional accomplishments and expertise. All students in the executive track are expected to be full time students and graduate in one calendar year.

Advanced Nursing Knowledge Courses (9 credits)

NUR 502 Theory Development in Nursing (three credits)
NUR 503 Nursing Research I (three credits)
NUR 601 Nursing Research II (three credits)

Population Health Courses (9 credits)

NUR 501 Introduction to Population Health (three credits)
NUR 505 Epidemiology (two credits)
NUR 606 Practicum (four credits)

Area of Concentration – Individual Program of Study (20 credits)

Examples of Individual Programs of Study:

Student with BSN, MBA

Application of MBA credit to MSN

NUR 503	Nursing Research	3
NUR 603	Finance	2
Elective credit		5
Total credit hours		10

Student with BSN, MPH

Application of MPH credit to MSN

NUR 503	Nursing Research	3
NUR 602	Health Care Policy	2
	Elective credit	2
NUR 505	Epidemiology	3
Total credit hours		10

Possible Credits through Portfolio Submission

NUR 500	Role Development	1
NUR 604	Nsg/Populations I	4
NUR 605	Nsg/Populations II	4
NUR 607	Role Development II	1
Total Credit Hours		10

NUR 500	Role Development	1
NUR 604	Nsg/Populations I	4
NUR 605	Nsg/Populations II	4
NUR 607	Role Development II	1
Total Credit Hours		10

Required Courses

NUR 501	Intro/Pop Health	3
NUR 502	Nursing Theory	3
NUR 505	Epidemiology	3
NUR 601	Nursing Research	3
NUR 602	Public Policy	2
NUR 606	Practicum	4
Total Credit Hours		18

NUR 510	Intro/Pop Health	3
NUR 502	Nursing Theory	3
NUR 601	Nursing Research	3
NUR 603	Finance	2
NUR 606	Practicum	4
	Elective	3
Total Credit Hours		18

Clinical Placement

Students admitted to Phase II of the graduate program will take NUR 604, NUR 605, and NUR 606, each of which includes a lecture and clinical component. During these learning experiences students will interact with their population in their cognate area, and develop skills and competencies in promoting 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.

Changes approved 8/07

Students also must complete a minimum of two credit hours from the following courses:

SPH 525 Augmentative Communication (2 credits)

SPH 526 Medical Speech-Language Pathology (2 credits)

5. Students must successfully complete either a comprehensive examination or a master's thesis. A maximum of four credits may be counted toward the master's thesis. (See Exit Requirements)
6. Students seeking Ohio certification as a public school speech-and-language pathologist 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.) Two SPH 435—Organization and Administration of a Public School Speech and Hearing Program, and SPH 438/594—Dialect Difference in the Schools) must also be completed.

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Exit Requirements

The department offers both a thesis and 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 3.3 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 the student's thesis proposal is approved, he or she 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 twenty-four credit hours of graduate study with a minimum 3.0 grade-point average. The comprehensive examination consists of essay questions. Students must register for SPH 591 Comprehensive Examination with the permission of their advisor.

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 (CCC) in speech-language 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 advisors 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.

Specific ASHA Guidelines

1. Students must earn at least seventy-five 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. These seventy-five credit hours reflect the forty-one credits required for the Master of Arts in Speech Pathology and Audiology plus relevant coursework taken at the bachelor and postbaccalaureate levels. At least twenty-seven of the seventy-five 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 fifteen 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.
2. The student must earn at least forty-one credit hours in courses that concern the nature, prevention, evaluation, and treatment of speech, language, and hearing disorders. In accordance with the 2005 Council

on Academic Accreditation Standards, students must demonstrate all clinical competencies as defined by the department.

3. Students must complete at least twenty-five 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.

4. The student must submit evidence of the completion of a minimum of 400 supervised clinical clock hours of which at least 375 hours must be in direct client/patient contact. The department requires that students whose major is speech-language pathology must have completed the following supervised clinical hours at a minimum of three sites:

- a. twenty clinical hours each in the evaluation of speech disorders in children and speech disorders in adults;
- b. twenty clinical hours each in the evaluation of language disorders in children and language disorders in adults;
- c. twenty clinical hours each in the treatment of speech disorders in children and speech disorders in adults;
- d. twenty clinical hours each in the treatment of language disorders in children and language disorders in adults;
- e. a minimum of twenty clinical hours in audiology with experience in both screening and aural rehabilitation.

Students must demonstrate clinical competencies across the life span as indicated by ASHA in the following “big nine” areas: Articulation, Fluency, Voice and Resonance, Receptive and Expressive Language, Hearing, Swallowing, Cognitive Aspects of Communication, Social Aspects of Communication, and Communication Modalities/Augmentative/Alternative Communication Systems.

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Master of Science in

Physics

New Track approved October 2006

Department of Physics

Science Building 112
(216) 687-2425 www.csuohio.edu/physics/Grad/Grad.html

Miron Kaufman, Chair James Lock, Graduate Program Director

The Faculty

Current faculty information can be located on the Department of Physics Web site.

Introduction

Currently, there is tremendous growth in optics, condensed matter, and medical physics caused by rapid developments in the fields of superconductivity, electrooptic materials, optical, acoustical, and NMR imaging, semiconductor devices, tomography, holography, and image-processing. The Physics Department of Cleveland State University offers an MS 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."

Current Research

Macromolecular Crystallography

X-Ray studies of crystallized biologically and chemically interesting molecules, for designing molecules with specific biological activities for developing drugs.

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 micro emulsions 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 presently are 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, glasses, polymers, superconductors, and magnets are being studied by applying modern techniques such as the renormalization group. Statistical physics methods are applied to cognitive science, health sciences, and polymer processing.

Admission Information

To be considered for admission to the Master's program in Physics with a Specialization in Optics/Materials, students must meet College of Graduate Studies requirements for admission (see the Admission section of this Catalog) and have an undergraduate degree in physics, mathematics, engineering, or an allied field. Students with deficient backgrounds are required to register for additional courses to remove deficiencies.

To be considered for admission to the Master of Science in Physics with a Specialization in Medical Physics, applicants must meet College of Graduate Studies admission requirements and hold an undergraduate degree in physics, chemistry, electrical engineering, chemical engineering, mechanical engineering, or nuclear engineering. All students applying for the MS in Physics program with a Specialization in Medical Physics must take the GRE general examination, verbal reasoning, quantitative reasoning and analytical writing. Students whose undergraduate training was not in the United States and whose native language is other than English must also take the TOEFL examination and score above 600 (paper version) and the Test for Spoken English (TSE) and score above 300. All applications must be received by April 1.

To facilitate the admission process, it is strongly recommended that applicants use the online application system at www.csuohio.edu/admissions/gradForm.html. The processing time for paper application forms is longer.

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:

PHY 330 Introduction to Modern
Physics PHY 350 Electricity and Magnetism PHY 360 Electronics Laboratory PHY 474 Thermal Physics
BIO 266 Human Anatomy and
Physiology BIO 267 Human Anatomy and
Physiology Laboratory

Degree Requirements

A minimum of 32 credit hours, approved by the Physics Graduate Committee, is required for graduation.

Optics and Materials

PHY 520, [Computational Physics \(4 credits\)](#)
PHY 550, [Optics \(4 credits\)](#)
PHY 555, [Advanced Optics Laboratory \(4 credits\)](#)
PHY 560, [Laser Physics and Photonics \(4 credits\)](#)
PHY 565, [Image Processing \(4 credits\)](#)
PHY 570, [Environmental Physics \(4 credits\)](#)
PHY 580, [Optical Materials \(4 credits\)](#)
PHY 598, [Project \(4 credits\)](#)

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Medical Physics

PHY 515, [Introduction to Biological Physics \(4 credits\)](#)
PHY 520, [Computational Physics \(4 credits\)](#)
PHY 530, [Introduction to Medical Physics \(4 credits\)](#)
PHY 535, [Radiation Therapy Physics \(4 credits\)](#)
PHY 565, [Image Processing \(4 credits\)](#)
PHY 570, [Environmental Physics \(4 credits\)](#)
PHY 596, [Laboratory Training in Radiation Therapy Physics I \(4 credits\)](#)
PHY 597, [Laboratory Training in Radiation Therapy Physics II \(4 credits\)](#)

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Optics and Medical Imaging (New Track Approved October 2006)

[PHY 520 Computational Physics \(4 credits\)](#)
[PHY 530 Introduction to Medical Physics \(4 credits\)](#)
[PHY 550 Optics \(4 credits\)](#)
[PHY 555 Advanced Optics Laboratory \(4 credits\)](#)
[PHY 560 Laser Physics and Photonics \(4 credits\)](#)
[PHY 565 Image Processing \(4 credits\)](#)
[PHY 593 Special Topics: Monte Carlo Simulations \(2 credits\)](#)

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PHY 598 Project (4 credits)
CHE 659 Medical Imaging (3 credits)

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JD/MS in Environmental Science Program

The combined curriculum leading to the degrees of Juris Doctor and Master of Science in Environmental Science 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 Dual Degree Program can occur in one of two ways. Applicants who are not currently enrolled in either the JD or the Ms in Environmental Science 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 Dual Degree Program. Students who enroll in this manner usually should plan to spend their first year taking courses exclusively in the JD program and their second year taking courses mainly in the MS in Environmental Science program. In the third and fourth years, students take courses in both degree programs. Applicants who are currently enrolled in either the JD or the MS in Environmental Science degree program must apply for admission to the other degree program prior to the completion of 60 credit hours or two years of full-time study in the JD program, or prior to the completion of 18 credit hours or one year of full-time study in the College of Science. Students who enroll in this manner are advised as to how to schedule the remainder of their courses in the Dual Degree Program. Under no circumstances will a student be allowed to take more than eight years to complete the combined programs.

The Dual Degree Program requires a total of four academic years of full-time study. 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 10 semester credit hours from courses cross-listed with the College of Science (Thesis Research, 2-3 credits from a Technical Writing Course (ENG 509 in the College of Liberal Arts and Social Sciences), and one additional course taken in the College of Science. The Master of Science in Environmental Science requirements are fulfilled by the completion of the following:

- a) 24 credit hours of course work, including all required courses, concentration electives and field experience from courses in the College of Science, any required interdisciplinary core competency courses (2-3 credits of Technical Writing, 3.g. ENG 509, and 3 credits from a course in Environmental Technology taken in the College of Engineering), and 3 credits from a course in Environmental Law taken in the College of Law, and
- b) 8 semester credit hours for a Thesis project (EVS/BIO 691/695).

The minimum total number of credits required for the MESE degree is 32. 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 Dual Degree Program are not permitted to take courses outside either the College of Law or the Master of Science in Environmental Science program for credit toward either degree. A student is allowed to receive credit toward the dual degrees for an elective course taken outside the Colleges' academic programs with prior written approval of the Directors of the MESE, and JD/MSES Programs.

Submit College of Graduate Studies application materials to the Graduate Admissions Office. Contact the College of Law regarding law application procedures.

Degree Requirements

Courses

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 3.0 or better in the following prerequisite courses:

PAD 600 Introduction to Public Administration or PAD 617/PSC 605 Public Administration and the Political Process

UST 601 Applied Quantitative Reasoning I UST 602 Applied Quantitative Reasoning II
UST 603 Public Finance and

Economics UST 605 Urban Spatial Structures UST 616 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 four courses with a grade of B or better in each course. The core courses are:

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Fall Term

UST 800 Urban Theory I

~~UST 806 Urban Research Methods~~

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Spring Term

~~UST 802 Frameworks of Inquiry*~~

UST 803 Quantitative Research Methods I

2. Complete a concentration of twenty hours plus two electives. Each concentration includes a required seminar, which is usually the last course taken prior to the comprehensive examination. Available concentrations or areas of specialization are:

Deleted: UST 804 Quantitative Research Methods II or UST 805 Qualitative Research Methods in Urban Studies

Section Break (Next Page)
Graduate Catalog 2006 – 2008 Urban Affairs / 179 ¶

- a. Environmental Policy and Administration
- b. Housing and Neighborhood Development
- c. Public Administration
- d. Urban Economic Development
- e. Urban Human Services Administration

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*Students whose major area of specialization is Public Administration are ¶
required to take UST 802 in lieu of ¶
UST 801. ¶

2. Complete a concentration of twenty hours plus two electives. Each concentration includes a required seminar, which is usually the last course taken prior to the comprehensive examination. Available concentrations or areas of specialization are:

- a. Environmental Policy and Administration
- b. Housing and Neighborhood Development
- c. Public Administration
- d. Urban Economic Development
- e. Urban Human Services Administration
- f. Communication (New Track Approved May, 2007)

Graduate Catalog 2006-2008

Master of Nonprofit Administration and Leadership

Maxine Goodman Levin College of Urban Affairs

Urban Affairs 231

(216) 687-2136

<http://urban.csuohio.edu/academics/mnal.shtml>

Stuart Mendel, Graduate Program Director

The Faculty

Current faculty information can be located on the Department of Urban Studies web sites.

Introduction

Nonprofit organizations are distinct from business and government in that they blend private structures with public purposes. Effective managers need an understanding of how nonprofits interact with public and private institutions.

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.

Nonprofit management, administration, and leadership is a rapidly growing career field in high demand. This degree draws on the strengths of leading scholars and practitioners with expertise in human resources, volunteerism, philanthropy and 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 as well as 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.

For updated program information, visit the MNAL homepage at <http://urban.csuohio.edu/academics/mnal.shtml>.

Research Units

Students have the opportunity to work with the faculty and staff in the research, public-service, and training centers of the Levin College. See the Educational Resources section of this Catalog for information on the Levin College facilities.

College Computing and Technology

To promote computer literacy and to provide computer-based academic resources, the Levin College maintains two student computer labs and a portable, twenty-four user laptop cart for use in classrooms. 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 computers and a Quicktime streaming server. Additional computing information may be found at the College Web site at urban.csuohio.edu.

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.

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 those who have submitted all application materials for the MNAL 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.

Admission Information

Applicants to the Master of Nonprofit Administration and Leadership Program must meet the minimum requirements established by the College of Graduate Studies and the MPA program faculty:

1. A minimum undergraduate grade-point average of 3.0.
2. Graduate Record Examination (GRE) scores, with an average GRE Verbal and Quantitative score at the 40th percentile, and an Analytical Writing score of at least 4.0.

Students with a graduate degree from an accredited college or university are exempted from this requirement. Other standardized tests may be substituted at the discretion of the Program Director.

3. Two letters of recommendation, using the Recommendation Form for Graduate Admission (available online at <http://www.csuohio.edu/gradcollege/admit/pdf/recommend.PDF>)
4. Non-native English speakers who do not have an earned bachelor's degree or higher from an accredited U.S. institution must demonstrate proof of English-language proficiency by achieving a minimum score of 525 on the paper-based TOEFL, 197 on the computer-based TOEFL, scores of 17 in Reading, Listening, and Speaking, 14 in Writing on the internet-based TOEFL; or by

one of the English Language Proficiency options listed in this bulletin (Admission to the College of Graduate Studies).

To facilitate the admission process, it is strongly recommended that applicants use the online application system at www.csuohio.edu/admissions/gradForm.html. The processing time for paper application forms is longer.

Types of Admission

Regular Admission

Applicants have met all of the above admission requirements.

Regular Admission with MNAL Requirements

Applicants have met the minimum requirements for admission to the College of Graduate studies, but do not meet one or more of the above MNAL program requirements. Students admitted with requirements will be required to complete specified courses within a limited amount of time, and receive satisfactory grades in order to continue in the degree program.

Conditional Admission

International applicants who do not meet the College of Graduate Studies English Language proficiency requirements, but meet the other program requirements, may be admitted conditionally. These students must take courses as specified by the CSU ESL program. If conditionally admitted international students do not meet all of these requirements within two semesters, they will be automatically dismissed from the University.

Non-Degree Seeking Admission

Students may apply for admission to the University in a non-degree-seeking status, and must fill out a Non-Degree Student Policy Form in order to register for MNAL courses. Students who subsequently apply to the MNAL program must have received a B or better in each course to be considered for admission. Up to sixteen credits earned as a non-degree student can be applied toward the degree.

Non-degree graduate students who have submitted all required application materials and are in good academic standing (GPA 3.0 or above) will be considered for admission as Regular Graduate Students.

Program Requirements

The curriculum for the MPA program consists of thirty-nine to fifty-one credit hours. The program is divided into prerequisites, core courses, electives, and a Capstone.

Prerequisite Courses

Students must satisfy two prerequisite requirements, either through prior coursework or completion of 2 courses:

NAL 601: Applied Quantitative Reasoning - Statistics (or equivalent)**

NAL 603: Public Finance and Economics – Microeconomic Theory (or equivalent)

**Students whose GRE Quantitative score is lower than the 60th percentile must take an assessment test prior to enrolling in NAL 601. If necessary, NAL 501 must be completed prior to NAL 601.

Core Courses

The core of the MNAL curriculum (26-27 credit hours) is required of all students and consists of the following:

NAL 510 Proposal Writing and Program Development

NAL 550 Institutional Development of the Nonprofit Organization

NAL 602 Applied Quantitative Reasoning II *or* SWK 675 Program Planning & Evaluation

NAL 604 Organizational Behavior

NAL 630 Human Resource Management

NAL 651 Fundraising and External Relations for Nonprofit Organizations

NAL 652 Financial Administration of Nonprofit Organizations

Elective Credit

Students have 3 courses (9-12 credit hours) available for electives and should consult with the Graduate Advisor to choose electives and plan their schedules. Electives 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.

Capstone Requirement

All students are required to complete NAL 656: Capstone in Nonprofit Management and Leadership prior to graduation. This course should be taken in the final semester of the program. Students integrate learning from the MNAL core curriculum with professional practices encountered in nonprofit organizations.

Transfer Credit

Upon satisfactory completion of 12 or more credit hours of graduate coursework at Cleveland State University, degree-seeking students may transfer up to 3 courses from an accredited college or university. Transfer credit is subject to Program Director approval, and must meet all University requirements for transfer credit (please refer to Academic Regulations).

Core Courses

The core of the MPA curriculum (16 credit hours) is required of all students and consists of the following:

- PAD 600 Introduction to Public Administration
- PAD 601 Applied Quantitative Reasoning I
- PAD 603 Public Finance and Economics
- PAD 604 Organizational Behavior

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Students in the Economic Development track must also take PAD 617/PSC 605: Public Administration and the Political Process.

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Certificate Requirements

The requirements listed below are under review as of the printing of this Catalog. Please contact the [College of Science](#) at (216) 687-~~5580~~ for information on changes in program requirements.

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Graduate Certificate in Local/Urban Management

Change Approved September, 2007

Vera Vogelsang-Coombs, Certificate Program Coordinator

The certificate program is offered by the faculty of the Maxine Goodman Levin College of Urban Affairs. Its curriculum reflects the priorities of practicing local urban managers. The program draws upon the experience and knowledge of professionals associated with the public service centers of the Levin College of Urban Affairs and local government leaders affiliated with the Northeast Ohio City Management Association.

Introduction

The certificate program helps practitioners address the challenges and opportunities facing cities, including budget cutbacks and equity planning. The program also assists experienced managers in business and nonprofit sectors to transition into local government positions.

Admission Information

Degree-seeking graduate students who hold Regular status will be considered for admission to the certificate program. Applicants must have a career commitment to local/urban management.

Students enrolled in a graduate degree program at Cleveland State University must file, prior to graduation, a letter indicating their intent to complete the requirements for the certificate program. The letter, addressed to the Graduate Program 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. An applicant must:

- 1 Submit an application for the graduate certificate program, along with a \$30 application fee,
- 2 Submit an official transcript that shows evidence of an earned bachelor's degree from an accredited university with a cumulative undergraduate grade-point average of at least 2.75,

- 1 Submit two letters of reference from individuals familiar with the applicant's management experience,
- 2 Submit a resume indicating educational background, professional experience, and career goals, and
- 3 Meet one of the following criteria:
 - a. Obtain a score at the 50th percentile or higher on the general section of the GRE within the last six years.
 - b. Complete twelve or more semester hours of Cleveland State University graduate work with a grade of B or better in each course.
 - c. Hold a master's or a JD degree from an accredited institution.
 - d. Successfully complete the Local Officials Leadership Academy through the Maxine Goodman Levin College of Urban Affairs.

Upon admission, all students must meet with a Graduate Program Advisor to prepare a program of study.

Credits earned for the certificate may apply toward a graduate degree, if approved by the student's graduate program director and in keeping with policies of the College of Graduate Studies.

To facilitate the admission process, it is strongly recommended that applicants use the online application system at www.csuohio.edu/admissions/grad Form.html. The processing time for paper application forms is longer.

Certificate Requirements

The certificate program consists of five courses. Three courses are required; two are electives.

Certificate students must maintain a minimum graduate grade-point average of 3.0 to remain in the program.

Required Courses

PAD 630 Public Human Resource Management (3 credits)

PAD 633 Budgetary Policy (4 credits)

PAD 634 Ethics in the Public Sector(4 credits)

~~PAD 619 Seminar in City Management (3 credits)~~

Elective Courses

~~One~~ course may be chosen from the following list. One alternative course may be selected with approval from the graduate certificate program director.

ACT 584 Government and Institutional Accounting (3 credits)

PAD 510 Proposal Writing and Program Development (4 credits)

PAD 600 Introduction to Public Administration (4 credits)

PAD 603 Public Finance and Economics (4 credits)

PAD 604 Organizational Behavior (4 credits)

~~PAD 620 Economic Development: Plans and Strategies (4 credits)~~

PAD 631 Law and Public Administration (3 credits)

PAD 632 Organizations and Management in the Public Sector (4 credits)

PAD 690 Internship (3 credits) PDD 607 Introduction to Urban Planning (4 credits)

PSC 636 Policy Development and Evaluation (4 credits)

UST 572 Conflict Management (4 credits)

For further information, contact:

Urban Student Services

Cleveland State University

2121 Euclid Avenue

Urban Building 232N

Cleveland, OH 44115

Phone: (216) 687-3884 Fax: (216) 687-5398

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Graduate Certificate in **Global Business**

(Approved April, 2007)

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 the opportunity to earn formal credentials in the field.

Faculty Research

More than two dozen faculty 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.

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)
 - One 690 Internship (with international component) (3 credits)
 - One 698 Research Project (3 credits)
 - Study abroad (3 credits)

For further information, please contact:

Department of Marketing,
Nance College of Business Administration:
1860 East 18th Street, BU 460
Cleveland, Ohio 44114-3610
Phone: (216) 687-4771
FAX: (216) 687-9354
E-mail: marketing@csuohio.edu

Graduate Certificate in Healthcare Informatics

Santosh Misra, Program Coordinator

Introduction

Healthcare informatics is defined as the understanding and promoting the effective organization, analysis, management and use of information in healthcare. According to the American Medical Informatics Association, this field uses technology as an integral tool to help organize and manage healthcare information. Tools and techniques from a number of disciplines are brought together to help in this management process. Disciplines contributing to healthcare informatics include such disciplines as computer and information science, statistics, health sciences, health management, and engineering.

Historically, healthcare informatics has been identified with the computerization efforts in healthcare delivery. Examples of information management in healthcare include Electronic Medical Record (EMR), the measurement of quality of care and the study of patient-perceived health outcomes. While it is difficult to enumerate all of the possible uses of informatics in healthcare, they include the use of computers in many decision making situations including those required during clinical trials for new drugs, the design of an experimental research, or the evaluation of a healthcare program.

A student of this certificate program will develop expertise to integrate computing and information science with biomedical information and knowledge, thereby addressing the interface between healthcare information and computing. They can identify/design research designs for healthcare outcomes, apply various statistical methods and describe strengths and weaknesses of various quantitative and qualitative methods.

Admission Information

This certificate program complements the knowledge-base of a degree seeking graduate student already enrolled in a program such as Computer Science, Health Science, Healthcare Management, and Social Science, including Psychology and other related areas. Alternatively, the applicant must meet the graduate certificate admission requirements as detailed in the Graduate Certificate and Licensure Admissions section of the graduate catalog.

Submit application materials to the Graduate Admissions Office.

To facilitate the admission process, it is strongly recommended that applicants use the online application system at [www.csuohio.edu/admissions/grad Form.html](http://www.csuohio.edu/admissions/grad%20Form.html). The processing time for paper application forms is longer.

Career Opportunities

A professional with healthcare informatics certificate can find career opportunities in more than 350 identified biotechnology companies in Ohio. In addition, this expertise is in demand in hospital and healthcare institutions. Nationally, available opportunities are much larger.

Program Highlights

At least 18 credit hours from courses listed below are required for the completion of the certificate. Based on the student's background, a minimum of two courses from each of the listed areas must be chosen. However, this restriction can be relaxed based on the student's background and the concurrence of the program advisory group. Consult the CIS department for the procedure.

Computer and Information Science:

- CIS 667 Bioinformatics (4-0-4)
- IST 600 Fundamentals of Systems Development (4-0-4)
- IST 603 Systems Analysis Methods (4-0-4)
- IST 604 Design and Implementation of DBMS (4-0-4)
- OMS 622 Project Management (3-0-3)

Statistics:

- HSC 503 Research and Analysis in Health Sciences (3-0-3)
- MTH 567 Probability and Statistics I (4-0-4)
- MTH 668 Probability and Statistics II (4-0-4)
- OMS 503 Statistical Methods for Business Decisions (3-0-3).
- OMS 633 Multivariate Statistical Methods (3-0-3).
- PSY 511 Univariate Statistics and Experimental Methodology (4-0-4)
- PSY 611 Advanced Data Analysis with Computer Applications (4-0-4)

Health Sciences and Management:

- HCA 515 Medical Care Organization (3-0-3)
- HCA 516 Health Care Policy and Quality (3-0-3)
- HCA 625 Health Care Informatics for Managers (3-0-3)
- HSC 501 Issues in Health Science (3-0-3)
- HSC 533 Program Development and Evaluation (3-0-3)

Of the 18 required credit hours, a maximum of 6 credit hours in each primary area taken for the Master's degree may be counted toward the Certificate Program.

For course descriptions, please consult the graduate catalog under appropriate department heading.

For a complete advising, students should contact the CIS departments in the College of Business Administration

Graduate Certificate in **Museum Studies**

(Approved June, 2007)

Robert Wheeler, Certificate Program Coordinator

Introduction

The History Department offers a Museum Studies Certificate for those who already have an MA or who are employed in a museum and would like to enhance their qualifications in the museum studies field.

Admission Information

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

Certificate Requirements

Students are required to complete a total of twenty (20) credit hours in approved courses with at least a 3.0 grade-point average.

1. 16 credit hours in the following required courses:

ART 505 Introduction to Museology (4 credits)
HIS 511 Introduction to Public History (4 credits)
PAD 651 Fundraising for Non-Profits (4 credits)
HIS 599 Internship in History (4 credits)

2. One additional course (4 credit hours) in consultation with the Graduate Director and the Coordinator of History Internships. Possibilities include but are not limited to:

HIS 504 US Urban History (4 credits)
HIS 506 History of Ohio (4 credits)
HIS 510 Indians in American History (4 credits)
HIS 512 17th Century America (4 credits)
HIS 519 US Tourism (4 credits)
HIS 529 Black Resistance in the Age of Jim Crow (4 credits)

3. The following course is recommended but is not required:

PAD 652 Financial Administration for Non-Profits (4 credits)

For further information, please contact:

The Department of History
Cleveland State University
2121 Euclid Ave., Rhodes Tower, Room 1915
Cleveland, OH 44115
Phone: (216) 687-3920

Fax: (216) 687-5592

Graduate Certificate in
Museum Studies (Natural History) (Approved May, 2007)

Jeffrey Dean, Certificate Program Director

Introduction

The certificate will serve as an introduction to the various aspects of professional work in museums, with particular attention to science museums. Modern museums have redefined themselves as educational, social, and cultural institutions, in addition to the traditional functions of scientific research and preservation. They house, protect, and preserve objects for posterity, and for study and enrichment. The objects found in natural history museums span many scientific disciplines and almost the entire existence of the earth; illuminating the history of these objects requires diverse techniques for direct observation and indirect inference. Further, modern natural history museums often maintain large collections of living organisms and may administer extensive nature preserves. Modern technology makes us human and it provides the tools for increasing our knowledge of and effect on the natural world; as such, technology itself is increasingly seen as a suitable object for natural history museums. Finally, modern museums encourage public engagement through volunteer programs, student internships, and a variety of educational programs; they also have a responsibility to contribute their experts and their store of basic scientific knowledge to enhance the factual basis of public issues where appropriate.

The certificate course work will address general aspects of museums, including fund-raising, and focus on the primary goals of a science museum: education, preservation of collections and research. Students can choose an elective to deepen their understanding of the science in the particular area of their interest. Finally, the certificate will include an internship experience.

Admission Information

It is expected that most interested students will have some background in one of the scientific or technological fields typically found in Natural History Museums or Science Centers. The applicant must meet the graduate certificate admission requirements as detailed in the Graduate Certificate and Licensure Admissions section of the graduate catalog.

Submit application materials to the Graduate Admissions Office.

To facilitate the admission process, it is strongly recommended that applicants use the online application system at [www.csuohio.edu/admissions/grad Form.html](http://www.csuohio.edu/admissions/grad%20Form.html). The processing time for paper application forms is longer.

Certificate Requirements

ART 505 Museology (4)
BIO 588 Museum Studies in Natural History (3)

BIO 589 Internship in Museum Studies (Natural History) or BIO 597 Independent Study in Biology [Internship] (4)
PAD 651 Fundraising for Non-Profits (4)

One additional Biology or Environmental Science course approved by the BGES graduate program director. Suggested courses include:

BIO 522 Mammalian Physiology plus BIOL 523 Lab (4)
BIO 550 Evolutionary Biology (3)
BIO 552 Marine Ecology (3)
BIO 554 Ecology plus BIO 555 Lab (5)
BIO 572 Wetland Ecology (4)
BIO 574 Stream Ecology (4)
BIO 578 Morphology of Flowering Plants plus BIO 579 Lab (4)
BIO 653 Advanced Research in Field Biology (4)
BIO 656 Environmental Physiology (3)
EVS 506 Ecosystem Science (3)
EVS 520 Rivers and Watersheds of Northeast Ohio plus EVS 521 Lab (4)
EVS 550 Applied Ecology (3)
EVS 570 Aquatic Ecosystems (3)

Total required credits = 18 to 20

Recommended, but not required:

PAD 652 Financial Administration for Non-Profits (4)

New May, 2006

Graduate Certificate in **Nursing Education**

Sharon Radziminski, Certificate Program Coordinator

Introduction

The graduate certificate program in nursing education allows nurses with existing baccalaureate or master's degrees in nursing to acquire the skills and competencies needed for the teaching and clinical supervision of nursing students. The program is designed to prepare graduates to be clinical faculty members in schools of nursing or staff development instructors in health care or related facilities. The program concentrates on curriculum design and development, instructional design, use of technology in the classroom, clinical teaching, faculty and student roles, and the supervision and evaluation of student nurses in clinical areas.

Admission Information

Students must hold either a baccalaureate or master's degree in nursing and have a current license to practice nursing in Ohio. Applicants must meet the graduate certificate admission requirements detailed in the Admissions section of this Catalog. Application materials should be submitted to the Graduate Admissions Office

Certificate Requirements

Individuals who successfully complete the following 14 hours in nursing education coursework and practicum experiences with a grade of B or better are eligible to receive the Graduate Certificate in Nursing Education granted by the University.

Certificate in Nursing Education (14 credit hours)

NUR 520	Curriculum Development in Nursing (3 credits)
NUR 626	Practicum in Nursing Education (4 credits)
NUR 627	Issues and Trends in Nursing Education (3 credits)
ETE 565	Technology in the Classroom (4 credits)

Graduate Certificate in Occupational and Physical Therapy in the Schools

(Change Approved July 2006 effective Fall 2006)

Susan Bazyk, Certificate Program Director

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Introduction

The certificate program is offered through the departments of Health Sciences and Psychology, and the College of Education and Human Services. The twelve-to-thirteen-credit certificate enhances the skills of occupational and physical therapists currently working, or wishing to work, in K-12 school settings or special schools.

Admission Information

Degree-seeking graduate students who hold Regular status, and individuals who meet the minimum requirements for graduate certificate admission, will be considered for admission. Credits earned for the certificate may be applied toward a graduate degree, as approved by the student's graduate program director and in keeping with the policies of the College of Graduate Studies. 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 cannot earn a University graduate certificate.

Applicants must have an undergraduate degree in occupational or physical therapy or be enrolled in the Occupational or Physical Therapy Program at Cleveland State University. 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.

To facilitate the admission process, it is strongly recommended that applicants use the online application system at www.csuohio.edu/admissions/grad Form.html. The processing time for paper application forms is longer.

Certificate Requirements **(Changes approved July 2006)**

Post-professional graduate students must take the following course:

HSC 514 Occupational and Physical Therapy in the Schools (3 credits)

One of the following:

ESE 500 Introduction to Special Education (4 credits)

ESE 501 Nature and Needs of Young Children with Disabilities and Those at Risk (4 credits)

ESE 502 Introduction to Individuals with Mild/Moderate Disabilities (4 credits)

ESE 503 Introduction to Individuals with Moderate and Severe Disabilities (4 credits)

Two electives from the list below or other elective as approved:

Health Science Electives

HSC 512 Evolving Technologies in Health Sciences (3 credits)

HSC 570 Special Topics - Addressing the Psychosocial Needs of Children in Occupational Therapy (3 credits)
HSC 570 Special Topics – Disability Laws in the Schools (3 credits)

Education Electives

ESE 500 Introduction to Special Education (4 credits)

ESE 501 Nature and Needs of Young Children with Disabilities and Those at Risk (4 credits)

ESE 502 Introduction to Individuals with Mild/Moderate Disabilities (4 credits)

ESE 503 Introduction to Individuals with Moderate/Severe Disabilities (4 credits)

ESE 511 Classroom Management and Intervention for Severe Behavior Problems (4 credits)

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ESE 512 Collaboration and Partnerships among Parents and Professionals in Special Education (4 credits)
HED 560 Foundations of a Coordinated School Health Program (4 credits)

Psychology Electives

PSY 767 Processing Issues in Consultation (1-4 credits)

Art Elective

ART 641 Art in Social and Vocational Contexts (4 credits)

Master of Occupational Therapy or Master of Physical Therapy Students must take the following:

HSC 514 Occupational and Physical Therapy in Schools (3 credits)

HSC 595 or 596 Occupational Therapy Fieldwork (6 credits)

One elective course from the list below

Health Science Electives

HSC 512 Evolving Technologies in Health Sciences (3 credits)

HSC 570 Special Topics - Addressing the Psychosocial Needs of Children in Occupational Therapy (3 credits)
HSC 570 Special Topics – Disability Laws in the Schools (3 credits)

Education Electives

ESE 500 Introduction to Special Education (4 credits)

ESE 501 Nature and Needs of Young Children with Disabilities and Those at Risk (4 credits)

ESE 502 Introduction to Individuals with Mild/Moderate Disabilities (4 credits)

ESE 503 Introduction to Individuals with Moderate/Severe Disabilities (4 credits)

HED 560 Foundations of a Coordinated School Health Program (4 credits)

Art Elective

ART 641 Art in Social and Vocational Contexts (4 credits)

For further information, contact: The Department of Health Sciences Cleveland State University Health Sciences 101 2121 Euclid Avenue Cleveland, OH 44115 Phone: (216) 687-3567 Fax: (216) 687-9316

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Course number changes approved 12/14/06

ACT 531 Financial Accounting: Resources (3-0-3). Prerequisite: ACT 501. 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.

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ACT 532 Financial Accounting: Equities (3-0-3). Prerequisite: 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.

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Change approved July 31, 2007

ALD 688 Internship in Adult Learning and Development (four credits). Prerequisites:

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.

Deleted: Completion of at least 16 hours in ALD program, admission to the ALD program, ALD 605, ALD 607, ALD 645, ALD 663, and EDB 601 (one of five may be taken concurrently with ALD 688)

ALD 689 ALD Portfolio Development (four credits). Prerequisite: Permission of Instructor. 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 do 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.

Deleted: Completion of at least 28 hours in the ALD program. Prerequisite or co-requisite: ALD 688

New Course Approved April 2007

BIO 538/738 Clinical Genetics (3-0-3). *Prerequisites: good standing in the Physician Assistant Program or permission of instructor.* Principles of clinical genetics and the use of traditional and molecular methods for the understanding, diagnosis and treatment of genetic disorder.

New Course – Approved April, 2007

BIO 588 Museum Studies in Natural History (3-0-3). *Prerequisites: Art 505 and permission of the instructor. Introduction to museums with particular attention to all aspects of science museums, including education, preservation of collections, research, display for study and enrichment, living collections, interactive displays, and nature preserve. Field trips may occur outside scheduled class hours.* .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.

New Courses – Approved May, 2007

CHE 578 Introduction to Molecular Simulation (3-0-3). *Prerequisite: Graduate standing in Chemical Engineering or permission of Instructor.* Connection between mechanics and thermodynamics, statistical mechanics, Intermolecular forces. Basic principles, molecular dynamics and Monte Carlo simulation. Corresponding stated and phase equilibrium from molecular simulation. Optional special topics. Examples of computer codes. Students who have pass CHE 478 may not register for CHE 578.

Course Changes approved August, 2007

CHE 594 Selected Topics in Chemical Engineering (1-3 credits). Prerequisite: Admittance to Accelerated Program, or permission from the Program. Advanced selected topics in Chemical and Biomedical Engineering. Offered on sufficient demand. May be repeated for credit with change of topic.

Deleted: Special Topics (3-0-3)

Deleted: Graduate standing in chemical engineering or permission of instructor.

New Course Approved August, 2007

CHE 598 Master's Project (1-3 credits). Prerequisite: *Admittance to Accelerated Program, or permission from the Program.* Student will be involved in an engineering research or development project under the personal supervision of a faculty member. The specific responsibilities of the student will be arranged by mutual consent of the student, the student's research advisor, and the department's graduate advisor. May be repeated for credit.

Deleted: Courses of current interest in chemical engineering. Offered on sufficient demand. May be repeated for credit with change of topic.

New Courses approved 2/15/07

CHE 600 Chemistry Teaching (1-0-1). Prerequisite: Approval of instructor. Orientation to the philosophy and methods used in teaching chemistry; observation and directed practice teaching in the laboratory and classroom.

CHE 700 Chemistry Teaching (1-0-1). Prerequisite: Approval of instructor. Orientation to the philosophy and methods used in teaching chemistry; observation and directed practice teaching in the laboratory and classroom.

Title Change approved December, 2007

CHE 653 Cell and Tissue Biology for Engineers (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.

Deleted: Tissue Engineering

CHE 753 Cell and Tissue Biology for Engineers (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.

Deleted: Tissue Engineering

New Course Approved December, 2007

CHE 658 Medical Device Design (3-0-3). Prerequisite: Graduate standing in engineering or permission of instructor. A practical approach to learning the process and principles for medical device design. Students will learn the basic concepts of designing medical devices through a hands-on approach. Teams of students will work together on a design project including concepts such as needs identification, FDA regulation, record-keeping, reverse engineering, human factors, prototyping, and validation.

New Courses (approved 12/15/06)

EEC 592 Special Topics in Electrical Engineering (4-0-4). *Prerequisite: Permission of Instructor. Advanced selected topics in Electrical Engineering. Offered upon sufficient demand.*

EEC 602 Electrical Engineering Internship (1-0-1). *Prerequisites: Graduate standing, completion of at least one full time academic year in MSEE or MSSE Program, and permission of advisor. Provides students with practical experience in electrical, computer or software engineering. Students will write progress reports on a regular basis in addition to writing a project report at the end of the course. May be taken up to two times for credit. S/U graded.*

EEC 646 Dynamics and Control of Mems (4-0-4). *Prerequisite: EEC 510. Provides a comprehensive overview of MEMS technique and MEMS control. Topics include MEMS fabrication processes, MEMS sensors and actuators, Dynamic modeling of MEMS devices, control, signal processing, and electronics for MEMS, and case studies of MEMS.*

EEC 688 Secure and Dependable Computing (4-0-4). *Prerequisite: EEC 584. Provides an extensive overview of secure and dependable distributed computing systems. Topics include computer and network security, faults models, process and data replication, reliable group communication, message logging, checkpointing and restoration, Byzantine fault tolerance and intrusion tolerance.*

EEC 802 Electrical Engineering Internship (1-0-1). *Prerequisites: Graduate standing, completion of at least one full time academic year in Doctor of Engineering Program, and permission of advisor. Provides students with practical experience in electrical, computer or software engineering. Students will write progress reports on a regular basis in addition to writing a project report at the end of the course. May be taken up to two times for credit. S/U graded.*

EEC 746 Dynamics and Control of Mems (4-0-4). *Prerequisite: EEC 510. Provides a comprehensive overview of MEMS technique and MEMS control. Topics include MEMS fabrication processes, MEMS sensors and actuators, Dynamic modeling of MEMS devices, control, signal processing, and electronics for MEMS, and case studies of MEMS.*

EEC 788 Secure and Dependable Computing (4-0-4). *Prerequisite: EEC 584. Provides an extensive overview of secure and dependable distributed computing systems. Topics include computer and network security, faults models, process and data replication, reliable group communication, message logging, checkpointing and restoration, Byzantine fault tolerance and intrusion tolerance.*

CHE 692 Chemical and Biomedical Engineering Internship (1-0-1). *Prerequisites: Graduate standing, completion of at least one full-time academic year in the Masters in Chemical Engineering Program, and permission of advisor. Provides students with practical experience in chemical or biomedical engineering. Students will be required to submit periodic progress reports, in addition to submitting a Final Project Report at the end of the term. May be taken up to two times for credit. Graded on an S/U basis.*

CHE 892 Chemical and Biomedical Engineering Internship (1-0-1). *Prerequisites: Graduate standing, completion of at least one full-time academic year in the Doctor of Engineering Program, and permission of advisor. Provides students with practical experience in chemical or biomedical engineering. Students will be required to submit periodic progress reports, in addition to submitting a Final Project Report at the end of the term. May be taken up to two times for credit. Graded on an S/U basis.*

Course Changes Approved August, 2007

CHM 502 Biochemistry J (3-0-3). Prerequisite: CHM 332 Organic Chemistry II, Chemistry of carbohydrates, lipids, proteins, nucleic acids, vitamins and hormones, with major emphasis on biochemical processes in human cells and organs, enzyme kinetics.

CHM 503 Biochemistry II (3-0-3). Prerequisite: CHM 502, Biochemistry I, Metabolism of carbohydrates, lipids, proteins, nucleic acids, vitamins and hormones, with major emphasis on metabolism within human cells.

New Course Approved August, 2007

CHM 507 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.

Deleted: (4-0-4)

Deleted: 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 ontogenesis, DNA replication, RNA synthesis, protein synthesis, and regulation of gene expression. A scientific review manuscript on a research topic will be required from students signing up for CHM 502.

Deleted: Environmental Toxicology (

Deleted: One year of natural sciences or permission of instructor

Deleted: Various topics on the impact of environmental pollutants on humans.

New Courses Approved July, 2007

CHM 541 Pharmacology I (3-0-3). *Prerequisites: CHM 332 and 337 or their equivalent. Co requisite: CHM 402 is strongly recommended.* First of a two-course sequence in pharmacology. General aspects of pharmacology, drug effects on the nervous system and neuroeffectors, psychopharmacology, depressants and stimulants of the central nervous system, anesthetics, drugs used in cardiovascular diseases, drug effects on the respiratory tract, drugs that influence metabolic and endocrine functions, chemotherapy, principles of toxicology, etc.

CHM 542 Pharmacology II (3-0-3). *Prerequisite: CHM 541.* Second of a two-course introduction to pharmacology. Study of human disease processes and the specific rational pharmacotherapeutics relating to the cardiovascular, respiratory, renal, hematologic, and dermatologic systems as well as eyes, ears, nose, and throat. Specific drug's indications, contraindications, mechanism of action, side effects, dosages, and methods of administration will be presented.

CHM 551 Medicinal Chemistry I (3-0-3). *Prerequisites: CHM 332 and 337 or their equivalent. Co requisite: CHM 402 is strongly recommended.* First of a two-course sequence in medicinal chemistry. Structure-activity relationships, molecular features of drugs, mechanisms of drug action, design and development of drugs, drug names and nomenclature, and therapeutic applications of drugs.

CHM 552 Medicinal Chemistry II (3-0-3). *Prerequisite: CHM 551.* Second of a two-course sequence in medicinal chemistry. Continuation of the topics from CHM 551.

New Courses – Approved May, 2007

CHM 690/790 Annual Research Report (1-0-1). *Prerequisite: Departmental Approval.* Written report and oral presentation of research progress to student's Research Advisor and Thesis/Dissertation Committee; includes submission of figures and data, and receiving feedback from the Advisor and the Committee.

Course Change approved May 2007

CIS 620 ~~Advanced Operating Systems~~ (4-0-4). Prerequisites: ~~CIS 545. Distributed systems and surrounding issues are explored.~~
~~Topics include: Distributed processes, communication, naming, synchronization, replication, fault tolerance, file systems, security and advanced Operating System concepts. Lab work involves processes, interprocess communication, network interfaces and socket programming.~~

Deleted: Comparative Operating Systems Interfaces

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Deleted: Processes and inter-process communication. Network interfaces and socket programming. Command-level shell programming; program development tools and file systems. Topics in distributed operating systems including naming, synchronization, consistency/replication, fault tolerance, and security.

Prerequisite change April, 2006

CIS 650 Compiler Design (3-0-3). Prerequisites: CIS 535 and CIS 545. Practical overview of the principles involved in the design and construction of translators. Language theory and its relation to pushdown 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 look-ahead LR, with exposure to the YACC parser generator tool. Lexical analysis, including regular expressions, finite-state machines, and the lex scanner generator tool.

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New Courses approved April 2005

CNS 665 Professional issues in Counseling Psychology (3credits). *Prerequisite: Admission to the counseling psychology.* This course educates first year doctoral students in the requirements and expectations of doctoral study in the counseling psychology specialization. Its primary purposes are to (a) facilitate students' transition to full time doctoral study in counseling psychology, (b) to introduce students to the discipline of counseling psychology -- its history, development, and current status, (c) to acquaint students with contemporary issues affecting research, practice, and training within the discipline, (d) to encourage preliminary independent inquiry into topics of interest within the field, and (e) to educate students on professional ethics for psychologists, the need for standards and accountability, ethical decision-making models, policies and procedures, and responsibility and rehabilitation.

CNS 780 Counseling Psychology Doctoral Practicum 1: Focus on Interventions (6 credits). *Prerequisites: Admission to Ph.D. Program in counseling psychology and successful completion of the first year of the doctoral program in counseling psychology.* This course is the first field experience for doctoral students in counseling psychology that provides students with opportunities to develop therapeutic skills in counseling and psychotherapy interventions with community clients under supervision. It aims to help student develop skills in assessing client needs and implementing empirically supported interventions with diverse clients. Students are expected to complete 2 consecutive semesters in this course and to comply with all legal and ethical standards of the profession.

Course Title & description changes approved April 2005

CNS 781 Counseling Psychology Doctoral Practicum 2: Focus on Assessment (6 credits). *Prerequisites: Admission to the counseling psychology specialization and successful completion of CNS 780.* Second year field experience for doctoral students in counseling psychology that provides opportunities to develop assessment skills, skill in using the DSM, and skill in using psychological tests in mental health settings. Students will gain skill in assessing the problems clients from diverse populations bring to psychotherapy and understand the relationship between assessment and treatment planning. Students are expected to complete 2 consecutive semesters in this course and to comply with all legal and ethical standards of the profession.

CNS 782 Pre-doctoral Internship in Counseling Psychology (2 -4 credits). *Prerequisites: Completion of all Ph.D. coursework in counseling psychology, comprehensive examinations, language requirements, and a successful dissertation proposal hearing.* The final educational experience in the doctoral program involves placement in a one-year full time internship or two-year half time internship under the supervision of a licensed psychologist, working with clients in psychotherapy and related therapeutic activities. A minimum of 2000 hours is required and the Director of Training in Counseling Psychology must approve placement.

New Courses Approved May, 2007 for Fall 2008

COM 650/750 Seminar in Urban Communication (4-0-4). Examines research, perspectives and controversies in urban communication. Focuses on mass and interpersonal communication patterns that make up communication systems in neighborhoods and cities and the importance of technology, with attention to both macro and micro questions about the relationship between communication and environment. In addition, traditional models and theories from communication and a variety of methodologies are applied to the study of urban issues. Active research projects are integrated into the class.

COM 670/770 International Negotiation Strategy and Practices (4-0-4). Negotiations, both professional and personal, take place on many fronts. This course is designed to raise student's negotiation competency by examining negotiation from an intercultural communication competency perspective. Student's will learn how to develop strategic goals for the international marketplace. Allows student's to identify and address areas of strength and weakness in negotiation style.

New Courses – Approved May, 2007

COM 660/760 Strategic Communication (4-0-4). Focuses on the Strategic Communication (planned response) processes often associated with Strategic Management. It is an in-depth and hands on approach on the mechanics, development and implementation of Public Relations Plans, which include elements of Public Relations, Organizational, Advertising and Marketing principles. Research processes will be implemented and used at several levels to identify issues and audiences as well as to design, manage and evaluate campaigns. Students will learn how to better work with such key public media, employees, community members and investors.

New Courses approved April 2005

CPY 667 History of Psychology (3 credits). *Prerequisites: Admission to the Counseling Psychology Specialization or permission of the instructor.* Provide students with an overview of the historical events that have helped shape the field of psychology. During this course we will discuss how various philosophical perspectives, major theories, important research, and other events have influenced the development of our field. Historical events will be linked to current issues in psychology. As part of the course we will discuss ways in which diversity and multicultural issues have been historically addressed and neglected in psychology

CPY 663 Biological Bases of Behavior (3 credits). *Prerequisites: Admission to the Counseling Psychology Specialization or permission of the instructor.* Provides an introduction to the physiological processes related to behavior, an overview of physiological psychology and the latest relevant research on gene expression. The nervous, sensory, and hormonal systems will be studied in their relationship to psychological phenomenon. The relevance of the material to substance abuse and dependence and neural correlates of mental/emotional disorders.

CPY668 Social Psychology (3 credits). *Prerequisites: Admission to the Counseling Psychology Specialization or permission of the instructor.* Introduces graduate students to social psychology theory, concepts, and research. A broad range of theoretical topics will be covered, including social cognition and perception, attitudes, influence, social identity, interpersonal relationships, prosocial behavior, and aggression. Issues of diversity such as prejudice and intergroup relations will also be included. The relevance of these social psychology concepts as foundations for the practice of counseling psychology will be addressed

New Course approved May, 2006

CVE 602 Civil Engineering Internship (1-0-1) *Prerequisites: Graduate Standing in Civil Engineering, Completion of at least one full-time academic year in MSCE or Doctor of Engineering program, and permission of advisor.* Provides students with practical experience in Civil/environmental engineering. Students are required to submit a final project report and make a presentation at the end of the course. May be taken up to two times for credit. S/F graded.

New Course approved May, 2006

EVE 602 Environmental Engineering Internship (1-0-1) *Prerequisites: Graduate Standing in Civil Engineering, Completion of at least one full-time academic year in MSCE or Doctor of Engineering program, and permission of advisor.* Provides students with practical experience in Civil/environmental engineering. Students are required to submit a final project report and make a presentation at the end of the course. May be taken up to two times for credit. S/F graded.

Credit hour change June 2007

CVE 512 Finite Element Analysis I (4-0-4). Techniques in the formulation and application of the Finite Element method. Calculus of variation, potential energy and Galerkin Formulations of element stiffness equations. Uniaxial, biaxial element, isoparametric element formulations. Applications to plane stress, plane strain, and axisymmetric problems, solutions of engineering problems using computer software.

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Deleted: 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

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Deleted: Extension of the finite-element method to the solution of advanced three-dimensional stress-analysis problems.

CVE 612 Finite Element Analysis II (4-0-4). Prerequisite: CVE 512 or MCE 580. Advanced techniques in the formulation of the Finite Element with applications. Development of three dimensional elements, tetrahedrals and hexahedrals. Formulation of thin and moderately thick plate bending elements and shell elements. 3D isoparametric beam, plate and shell elements, solutions of engineering problems using computer software.

MME 512 Finite Element Analysis I (4-0-4). Techniques in the formulation and application of the Finite Element method. Calculus of variation, potential energy and Galerkin Formulations of element stiffness equations. Uniaxial, biaxial element, isoparametric element formulations. Applications to plane stress, plane strain, and axisymmetric problems, solutions of engineering problems using computer software.

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Deleted: Prerequisite: MME 511 or MCE 504 or permission of instructor. Theory and application of finite-element methods as analysis tools for problems in engineering. Cross-listed with CVE 512 and MCE 580

MME 612 Finite Element Analysis II (4-0-4). Prerequisite: MME 512 or MCE 580. Advanced techniques in the formulation of the Finite Element with applications. Development of three dimensional elements, tetrahedrals and hexahedrals. Formulation of thin and moderately thick plate bending elements and shell elements. 3D isoparametric beam, plate and shell elements, solutions of engineering problems using computer software.

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Doctor of Physical Therapy Course Descriptions

HSC 560 Interdisciplinary Team Development (2-2-3) Investigation of contemporary health issues that influence the health care team. Prerequisite: Enrollment in health or social sciences program.

DPT 598 Special Topics in Physical Therapy Research (variable -- 0-2-1 to 0-12-6)
Exploration of specialty areas within the practice of physical therapy, by conducting an in-depth study of a selected topic. (elective)

DPT 607 Basic Pharmacotherapeutics (2-0-2) This course provides an introduction to the basic principles of pharmacotherapeutics and pharmacologic intervention as applied to rehabilitative therapeutic management. Prerequisite: Admission to the Physical Therapy Program or permission of instructor.

DPT 620 Medical Screening and Imaging (2-2-3) This course provides an introduction to medical screening procedures and the interpretation and use of diagnostic imaging in the physical therapy examination, evaluation, and differential diagnosis process.

DPT 630 Foundational Theory and Evidence Based Practice (2-0-2) This course explores foundational physical therapy theory and evidence based practice. Prerequisite: Admission to the Physical Therapy Program or permission of instructor.

DPT 638 Life-span Development (4-0-4) The development of the normal human from infancy through old age. Emphasis on perceptual-motor, social, intellectual, and psychological growth as they relate to the practice of physical therapy. Prerequisite: Admission to the PT program or permission of instructor.

DPT 642 Functional Anatomy for Physical Therapists (2-2-3) This course aims to assist the physical therapy student in developing a logical approach to understanding human form and function, the fundamentals of movement, through the application of biomechanics and physiologic principles. Prerequisite: Admission to the Physical Therapy Program or permission of instructor.

DPT 650 Physical Therapy Theory & Practice I (2-2-3) Examination procedures used to develop a physical therapy diagnosis/prognosis with emphasis on manual muscle testing, goniometry and special testing.

DPT 652 Physical Therapy Theory & Practice II (2-2-3) Critical thinking and decision-making related to therapeutic intervention. Continuation of Physical Therapy Theory & Practice I
Prerequisite: Physical Therapy Theory & Practice I.

DPT 654 Physical Therapy Theory & Practice III (2-2-3) A fundamentals of evaluation and treatment course that introduces the student to traction, thermal, and electrical modalities.

DPT 662 Physical Therapy Interactions I (2-2-3) Introduces the student to contemporary health issues that influence the practice of physical therapy. Focus is on communication skills necessary for the physical therapist and the development of interaction skills with the individual and the family.

DPT 664 Physical Therapy Interactions II (1-2-2) Instruction and practice in written professional communication. Prerequisite: Physical Therapy Interactions I, admission to the Physical Therapy Program. Provides learning experiences for developing written skills in all aspects of documentation, emphasizing the completion of comprehensive physical therapy notes.

DPT 666 Physical Therapy Interactions III (1-2-2) Introduction to adult learning and teaching skills for physical therapy practice. 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.

DPT 672 Physical Therapy Management of Complex Conditions I (2-2-3) Lecture and laboratory study of human movement involving the principles of mechanics and physiology of the

cardiovascular, pulmonary, integumentary, endocrine and immune systems. Normal function is compared with signs of dysfunction. The role of the physical therapist in the prevention, maintenance and restoration of function associated with impairments and limitations of cardiovascular, pulmonary, integumentary, endocrine and immune system origins is explored. Emphasis is on total patient management through critical thinking and clinical decision-making. Prerequisite: Admission to the Physical Therapy Program or permission of the instructor.

DPT 674 Physical Therapy Management of Complex Conditions II (2-2-3) Lecture and laboratory study of human movement involving the principles of mechanics and physiology of the cardiovascular, pulmonary, integumentary, endocrine and immune systems. Normal function is compared with signs of dysfunction. The role of the physical therapist in the prevention, maintenance and restoration of function associated with impairments and limitations of cardiovascular, pulmonary, integumentary, endocrine and immune system origins is explored. Emphasis is on total patient management through critical thinking and clinical decision-making. Prerequisite: Admission to the Physical Therapy Program or permission of the instructor.

DPT 681 Physical Therapy Professional Issues in Clinical Education I (1-2-2): Introduces a variety of issues relevant to professional education both on campus and in the transition to the clinical setting. DPT students are acquainted with the Cleveland State campus environment and to the expectations of the DPT program and clinical education requirements within the curriculum.

DPT 683 Physical Therapy Professional Issues in Clinical Education II (1-2-2) Prepares students for the transition from classroom to clinic through the exploration of a variety of topics ranging from the selection process to strategies for successful performance in the clinical setting.

DPT 686 Applied Physical Therapy I (6 credits) Student participation in off-campus clinical settings. Prerequisite: Admission to the Physical Therapy Program or permission of the instructor.

DPT 692 Physical Therapy Scientific Inquiry (2-2-3) Study of the process of scientific inquiry as related to the practice of physical therapy. Prerequisite: Admission to the Physical Therapy Program or permission of instructor.

DPT 756 Physical Therapy Theory & Practice IV (1-2-2) A fundamentals of evaluation and treatment course that introduces the student to therapeutic exercise and other interventions targeting underlying musculoskeletal pathomechanics.

DPT 758 Physical Therapy Theory And Practice V (2-2-3) Continuation of Physical Therapy Theory And Practice IV with special emphasis on neuromotor interventions. Pre-requisites: Physical Therapy Theory And Practice IV.

DPT 768 Physical Therapy Interactions IV (1-2-2) This course develops advanced communication skills and motivational strategies. Prerequisite: Admission to the Physical Therapy Program or permission of instructor.

DPT 772 Physical Therapy Management of Complex Conditions III (2-2-3) The third of a seven course sequence that 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.

DPT 774 Physical Therapy Management of Complex Conditions IV (2-2-3) The fourth of a seven course sequence that 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.

DPT 776 Physical Therapy Management of Complex Conditions V (2-2-3) Lecture and laboratory study of human movement involving the principles of mechanics and physiology of the neurologic systems. Normal function is compared with signs of dysfunction. The role of the physical therapist in the prevention, maintenance and restoration of function associated with impairments and limitations of neurologic origin is explored. Emphasis is on total patient management through critical

thinking and clinical decision-making. Prerequisite: Admission to the Physical Therapy Program or permission of instructor.

DPT 778 Physical Therapy Management of Complex Conditions VI (2-2-3) Lecture and laboratory study of human movement involving the principles of mechanics and physiology of the neurologic systems. Normal function is compared with signs of dysfunction. The role of the physical therapist in the prevention, maintenance and restoration of function associated with impairments and limitations of neurologic origin is explored. Emphasis is on total patient management through critical thinking and clinical decision-making. Prerequisite: Admission to the Physical Therapy Program or permission of instructor.

DPT 785 Physical Therapy Professional Issues in Clinical Education III (1-2-2) Provides students with a group seminar atmosphere to analyze the quality and adequacy of their initial clinical education experiences, while also serving to prepare them for the capstone clinical education course within the curriculum.

DPT 786 Applied Physical Therapy II (5 credits) Student participation in off-campus clinical settings. Course is divided into two eight-week placements. Prerequisite: Admission to the Physical Therapy Program or permission of the instructor.

DPT 788 Applied Physical Therapy III (5 credits) Student participation in off-campus clinical settings. Prerequisite: Admission to the Physical Therapy Program.

DPT 790 Physical Therapy Administration and Management I (2-0-2) Investigation of managerial, organizational, and supervisory principles as related to physical therapy. Prerequisite: Admission to the PT Program or permission of instructor.

DPT 793 Physical Therapy Administration and Management II (1-2-2) Investigation of managerial, organizational, and supervisory principles as related to physical therapy. Prerequisite: Admission to the PT Program and completion of Physical Therapy Administration, and Management I.

DPT 844 Health Behavior and Social Responsibility (2-2-3) This course explores health behavior, health promotion, and wellness, as well as issues related to health disparities. Prerequisite: Admission to the Physical Therapy Program or permission of instructor.

DPT 872 Physical Therapy Management of Complex Conditions VII (1-2-2) Lecture and laboratory study of human movement involving the principles of mechanics and physiology of the neurologic, musculoskeletal, integumentary, and cardiopulmonary systems in combination. Normal function is compared with signs of dysfunction. The role of the physical therapist in the prevention, maintenance and restoration of function associated with impairments and limitations is explored. Emphasis is on total patient management through critical thinking and clinical decision-making. Prerequisite: Admission to the Physical Therapy Program or permission of instructor.

DPT 886 Applied Physical Therapy IV (5 credits) Student participation in off-campus clinical settings. Prerequisite: Admission to the Physical Therapy Program.

DPT 887 Physical Therapy Professional Issues in Clinical Education IV (1-2-2) The PT Professional Issues in Clinical Education course series is designed to facilitate transitions from undergraduate to graduate professional education and from the academic to clinical environments. In addition, each Professional Issues course immerses students in an inner city physical therapy service delivery environment to allow students to integrate and practice recently acquired knowledge and to explore issues in urban health care.

DPT 888 Applied Physical Therapy V (5 credits) Student participation in off-campus clinical settings. Prerequisite: Admission to the Physical Therapy Program.

DPT 895 Physical Therapy Administration and Management III (1-2-2) Prerequisite: Admission to the Physical Therapy Program or permission of instructor.

Description change approved 1/15/07

ECE 502 Teaching Methods in Early Childhood Education (4 credits). Prerequisites: ECE 500, ECE 501, and EDC 501. ~~Includes Field Placement in an early childhood classroom for 2 hours per week the last 10 weeks of the semester.~~ Study of teaching methods for educational settings that serve children from age three through age eight. Attention is given to strategies for planning, teacher-child interactions, guiding children's behavior, organizing the learning environment, conducting lessons/activities, caregiving, and supporting play, projects, and integrated curriculum. Required for early childhood teaching license.

Deleted: Field Experience required
(two hours per week, final ten weeks)

Prerequisite change approved April, 2006

ECN 582 International Economics (4-0-4). Prerequisites: ~~Microeconomics~~ and ~~Macroeconomics~~. 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; and macroeconomics in an open economy. Cross-listed with ECN 782. Candidates for the MA in Economics should register for ECN 582.

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macroeconomics

Credit hour change approved 1/23/07)

ECN 585 Economics of Development and Growth (4-0-4). Prerequisites: ECN 302 Intermediate microeconomic. A theoretical approach to development problems of the less-developed nations; comparison of various growth theories; inequality and economic development; population and growth; the impact of development on rural and urban sectors; market failures and government policies; international assistance.

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Deleted: and macroeconomic theory

Deleted: the role of capital, infrastructure, international assistance; and the surplus labor economy. Offered on sufficient demand.

Change Approved June, 2007

EDB 505 Teaching and Management in the Secondary School (~~4-0-4~~). Combines educational theory with actual classroom practice. Students identify and plan appropriate instructional strategies for diverse learners and secondary school contexts and identify appropriate classroom management skills and techniques for secondary students. Students examine a variety of classroom management techniques and develop a disciplinary unit of instruction to implement. Provides students with an opportunity to reflect on their own teaching.

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New Course approved April, 2007

EDB 511 Seminar on Classroom Inquiry (3-0-3). Introduces pre-service educators to the process of classroom inquiry and reflection, and to extend the skills of in-service educators, through a collaborative action research project. The focus is to develop methods consistent with critically reflective practices that support effective teaching and enhance student learning. By employing a systematic process of classroom inquiry, participants will learn how to develop classroom-based research by searching for relevant literature, designing appropriate data collection methods, analyzing, interpreting and reflecting upon the results, and providing a discussion of the findings related to the classroom and teacher practice. Participants will also share the findings with colleagues, submit an article to the online CSU *Teacher Research Journal*, and will be encouraged to present the study at a regional conference.

New Courses Approved 5/4/07

EDC 520 Teaching Mathematics with Technology (2 credits). This course is designed to help teachers of mathematics use technology to increase student learning in mathematics. Course participants will use technology to explore the issues surrounding the classroom use of technology. Specifically, this course will help teachers develop knowledge of research and theories regarding teaching and learning mathematics using technology. The course will also help teachers develop proficiency in the appropriate application of various technologies to encourage students develop greater conceptual understanding of mathematics and develop higher order thinking skills.

EDC 521 Assessment in Mathematics Education (3 credits). This course in Assessment, Diagnosis, and Evaluation in Mathematics will prepare P-6 Mathematics Specialist Endorsement candidates to be able to direct the alignment of curriculum with the state's Academic Content Standards within and across grade levels. In addition, they will analyze and interpret data from student assessments for teachers, parents, and the community.

EDC 522 Practicum in Mathematics Intervention (3 credits). *Prerequisite: Three years of successful experience in teaching mathematics.* Practicum in Mathematics Intervention is structured to provide P-6 mathematics teachers with necessary leadership experience for designing intervention programs for schools. In addition, the course helps the practicing teachers to create curriculum and instruction for students who are potentially at risk in learning mathematics. Also, the course stresses the practical application of theory and research to the planning and delivery, and evaluation of instruction.

Prerequisite Change – June 2007

EDL 507 TESOL Methods and Materials (3 credits), 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.

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Deleted: Prerequisite: EDL 506.

New Courses – Approved May, 2007

EEC 626 Software Engineering Project (4-0-4). *Prerequisite: MSSE core courses.* Students will apply software engineering principles, methods, and tools learned in their course work in building realistic software systems. Students work as small teams in solving real world problems. Students will meet regularly in class and teams meet separately.

Cleveland State University
Department of Electrical and Computer Engineering

EEC 626 Software Engineering Project
(4 credits)

Course description: Software Engineering Project (4-0-4) *Prerequisite:* MSSE core courses. Students will apply software engineering principles, methods, and tools learned in their course work in building realistic software systems. Students work as small teams in solving real world problems. Students will meet regularly in class and teams meet separately.

Textbook: Course Notes

References: Grady Booch, James Rumbaugh, Ivar Jacobson, **The Unified Modeling Language User Guide**, 2nd Edition, Addison-Wesley Professional, 2005.

Philippe Kruchten, **The Rational Unified Process: An Introduction**, Third Edition, Addison-Wesley Professional, 2003.

Robert C. Martin, **Agile Software Development, Principles, Patterns, and Practices**, 1st edition, Prentice Hall, 2002.

Coordinator: Dr. Yongjian Fu, Associate Professor

Course objectives: Students use the knowledge from other courses to specify, design, and construct a large scale software system. In addition, each team selects software process for and manages their software project. Students incorporate various activities for software quality assurance in their projects.

Expected outcomes: Upon the completion of this course, students should be able to

1. Select and follow a software development process
2. Use UML for software development
3. Practice software project management
4. Understand and implement a framework for software quality assurance

Prerequisite or co-requisites by topic:

1. Software process
2. UML

3. Software project management
4. Software quality assurance

<u>Topics</u>	<u>Class hours</u>
1. Requirements analysis and specification	8
2. Software development process	4
3. Software project management	6
4. Software design and architecture	8
5. Implementation	12
6. Testing	8
7. Software configuration management	6
8. Quality assurance	4
9. Presentation and demonstration	2
10. Documentation	2
<hr/>	
Total	60

Computer Usage: CASE tools for software development and management

Prepared by: Dr. Yongjian Fu

Date: Jan. 26, 2007

EEC 646/746 (4-0-4). *Prerequisite: EEC 510 Linear Systems.* This course provides a comprehensive overview of MEMS technique and MEMS control. Topics include MEMS fabrication processes, sensors and actuators used in MEMS, Dynamic modeling of MEMS, control, signal processing, and electronics for MEMS, and case studies of MEMS devices.

New Courses approved May, 2006

ENG 610 MFA Fiction Workshop (3 credits). *Prerequisite: Permission of instructor.* Graduate-level work in fiction writing.

ENG 611 MFA Fiction Workshop (3 credits). *Prerequisite: Permission of instructor.* Graduate-level work in non-fiction writing.

ENG 612 MFA Playwriting Workshop (3 credits). *Prerequisite: Permission of instructor.* Graduate-level work in playwriting.

ENG 613 MFA Poetry Workshop (3 credits). *Prerequisite: Permission of instructor.* Graduate-level work in poetry writing.

ENG 614 MFA Special Topics Workshop (1-3 credits). *Prerequisite: Permission of instructor.* Graduate-level work in genre-specific special topics writing. Topics may include recognizable sub-forms such as young adult fiction, detective fiction, memoir, research-based non-fiction, biography, experimental playwriting, dramatic docudrama, site-specific playwriting, puppetry playwriting or poetic forms. May be repeated with change of topic.

ENG 690 MFA Internship (3 credits). *Prerequisite: Permission of MFA Advisor and instructor.* Eight to ten hour weekly practicum in literary magazine production and/or editing, arts administration, arts programming/outreach, arts instruction, dramaturgy or theatrical production. Aims to bring students to an understanding of professional demands and expectations. Instructor will monitor student progress through bi-weekly contact with site manager. Students will be responsible for attending four class sessions throughout the semester and for generating a substantial academic paper.

ENG 615 MFA Craft and Theory (3 credits). Genres of fiction, non-fiction, playwriting and poetry studied with an emphasis on the craft of the practitioner. Literary texts are used to demonstrate the formal range of the genres studies. Craft exercises are used to explicate the operations and assumptions underlying literary techniques, Core course for NEOMFA. MA students may enter with permission of instructor.

ENG 616 MFA Literature (1-3 credits). Studies in literary themes, genres, or works significant in British, American, European or world literature.

New cross-listed courses approved 7/31/07

PDD 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. Cross-listed with PAD 510 and UST 510.

ENV 551 Environmental Finance and Capital Budgeting (4-0-4). Introduces students to 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 public goods and pricing theory, public sector involvement, regulation, market solutions, capital planning, and budgeting for environmental infrastructure. Cross-listed with PDD 551 and UST 551

PAD 571 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 and UST 571.

New Course approved 10/07

ENV 593 (1-4 credits). Special offerings varying with faculty expertise.

New Course Approved May, 2007

ESC 694/794 Selected Topics in Engineering Science (1-4 credits) Prerequisite: *Graduate standing in engineering or permission of instructor.* Advanced selected topics in Engineering Science. Offered on sufficient demand. May be repeated for credit with change of topic.

Change approved September, 2007

ESC 694/794 Selected Topics in Engineering Science (1-4 credits) *Prerequisite:* Graduate standing in engineering or permission of instructor. Advanced selected topics in Engineering Science. Offered on sufficient demand. May be repeated for credit with change of topic. Upon prior approval by the Graduate Affairs Committee, this course could be counted towards the fulfillment of doctoral core credits.

Course Description Change Approved June, 2007

ETE 501 Technology Strand (2 credits). Introduces students to the basic concepts and skills of computer technologies useful for educational settings and graduate study. An overview of user interfaces, file handling and WebCT on both Macintosh and Windows operating systems is presented. The use of the Internet for information retrieval is discussed and practiced. Internet research issues such as content validity and fair use are considered. Communication via electronic mail and attachments is introduced. Concepts and standard procedures in the use of common word processors, presentation software, graphics and spreadsheets are addressed. Emphasis is placed on APA formatting, presentation communication methods and graphing. Once mastery is achieved among the technology operation topics, students are expected to combine their skills to produce a comprehensive final project demonstrating the use of their skills in an educational context.

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Deleted: Credit by examination is available. For more information, visit wang.ed.csuohio.edu/ete501.

New Course – Approved April, 2007

EVE 571 Aquatic Ecosystems Laboratory (0-2-1). *Co-requisite: EVS 570, Prerequisites: Bio 200, 202 and CHM 261 or Equivalent.* Selected exercises designed to reinforce concepts covered in the EVS 570 lecture course, including laboratory and field exercises to introduce students to hands-on sampling and analytical techniques used in water quality assessment. Includes three required Saturday field trips.

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 3.0 cumulative grade-point average for all courses taken at the graduate level. Beyond satisfactory completion of all needed coursework, eligibility for enrollment in student teaching requires prior passage of all Praxis II exams for teacher licensure. For other requirements, please see earlier section, Practicum and Student Teaching Eligibility Requirements for Teacher Licensure.

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, University Center 400, (216) 687-3700, 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 (3 credits). *Prerequisite: Prior application and approval of the Office of Field Services.* Requires four half-days per week for one semester, typically in a preschool setting, observing and teaching under the direction of a mentor teacher and a University supervisor. Practicum or Student Teaching (EST580) must be in an urban setting. Both may be. Placement may be made in a 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 (3 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 mentor teacher and a University supervisor; includes seminar. Required for middle childhood teaching license.

EST 573 Practicum in Teaching English to Speakers of Other Languages (3 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 mentor teacher in a classroom that serves ESL students.

EST 575 Practicum in Speech and Hearing Therapy (4 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 mentor teacher and college supervisor; weekly seminar required.

EST 576 Practicum in Early Childhood-Special Education (2 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 mentor teacher. Required for licensure as an Early Childhood Intervention Specialist.

EST 580 Student Teaching in Early Childhood Education (4 credits). *Prerequisite: Prior application and approval of the Office of Field Services.* University-supervised student teaching experience, typically in a kindergarten or primary grade classroom. Practicum (EST 570) or Student Teaching must be in an urban setting. Both may be. Placement may be made in a setting that provides for the inclusion of children with special needs. Five full days per week for one semester under the direction of a mentor 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 mentor teacher

and a University supervisor. Required for middle childhood teaching license.

EST 582 Practicum in Secondary Education English (3 credits). *Prerequisites: Prior application and approval of the Office of Field Services. Co-requisites: EDS 513.* 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 begins formulating a personal philosophy for teaching while working in a junior or senior high school classroom under the direction of a mentor teacher and a University supervisor, includes seminar. Required for secondary teaching licensure.

EST 583 Practicum in Secondary Education Mathematics (3 credits). *Prerequisites: Prior application and approval of the Office of Field Services. Co-requisites: EDS 515.* 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 begins formulating a personal philosophy for teaching while working in a junior or senior high school classroom under the direction of a mentor teacher and a University supervisor, includes seminar. Required for secondary teaching licensure.

EST 584 Practicum in Secondary Education Social Studies (3 credits). *Prerequisites: Prior application and approval of the Office of Field Services. Co-requisites: EDS 516.* 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 begins formulating a personal philosophy for teaching while working in a junior or senior high school classroom under the direction of a mentor teacher and a University supervisor, includes seminar. Required for secondary teaching licensure.

EST 585 Practicum in Secondary Education Science (3 credits). *Prerequisites: Prior application and approval of the Office of Field Services. Co-requisites: 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 begins formulating a personal philosophy for teaching while working in a junior or senior high school classroom under the direction of a mentor teacher and a University supervisor, includes seminar. Required for secondary teaching licensure.

EST 586 Student Teaching in Early Childhood-Special Education (4 credits). *Prerequisite: Prior application and approval of the Office of Field Services.* University-supervised student teaching experience in one or two settings (different from experience in ESE 576): preschool programs for children with disabilities and/or primary grade special education programs, observing and teaching or providing early intervention services under the direction of a mentor teacher. For initial licensure students, student teaching must be completed during the Fall or Spring semesters. Those seeking a second credential may be able to complete student teaching during the summer with a minimum experience of 200 hours. Successful completion requires demonstration of competencies necessary for licensure as an Early Childhood Intervention Specialist.

EST 587 Student Teaching for Mild/Moderate Disabilities (4 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; five days 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 may be available, but is limited to students with two or more years of prior teaching experience.

EST 588 Student Teaching for Moderate and Intensive Educational Needs (4 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 mentor teacher. Successful completion requires demonstration of competencies necessary for licensure as a Moderate/Intensive Intervention Specialist. Summer student teaching may be available, but is limited to students with one or more years of prior teaching experience with students who have moderate and intensive needs.

EST 589 Student Teaching in Secondary Education English (10 credits). *Prerequisites: Prior application and approval of the Office of Field Services; must be taken concurrently with EDB 595.* Five full days a week for one semester in a secondary school classroom observing and teaching under the directions of a mentor teacher and a University supervisor. Required for secondary teaching license.

EST 590 Student Teaching in Secondary Education Mathematics (10 credits). *Prerequisites: Prior application and*

approval of the Office of Field Services; must be taken concurrently with EDB 595. Five full days a week for one semester in a secondary school classroom observing and teaching under the directions of a mentor teacher and a University supervisor. Required for secondary teaching license.

EST 591 Student Teaching in Secondary Education Social Studies (10 credits). *Prerequisites: Prior application and approval of the Office of Field Services; must be taken concurrently with EDB 595. Five full days a week for one semester in a secondary school classroom observing and teaching under the directions of a mentor teacher and a University supervisor. Required for secondary teaching license.*

EST 592 Student Teaching in Secondary Education Science (10 credits). *Prerequisites: Prior application and approval of the Office of Field Services; must be taken concurrently with EDB 595. Five full days a week for one semester in a secondary school classroom observing and teaching under the directions of a mentor teacher and a University supervisor. Required for secondary teaching license.*

EST 593 Special Topics in Curriculum and Instruction (1 - 4 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.*

EST 595 Seminar on Integrating Theory and Practice (3 credits). Exit seminar for initial licensure programs in middle childhood education. Students complete and present a professional teaching portfolio and action research project.

EST 596 Independent Study in Education (1 - 4 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 and Human Services.*

EST 691 Comprehensive Examination (1 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 (1 - 4 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 (1 - 4 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.*

Description changes approved 1/25/07

EST 570 Practicum in Early Childhood Education (3 credits). Prerequisite: Requires prior application and approval of the Office of Field Services and successful completion of Portfolio Checkpoint #2. EDC 501 plus all courses in Specialization Sequence except ECE 695 plus EDL 500, EDL 501 plus any 6 of remaining Literacy and Special Methods courses. Requires five half-days per week for one semester, observing and teaching under the direction of a mentor teacher and university supervisor; includes seminar. Practicum or Student Teaching (EST 580) must be in an urban classroom. Both may be urban. If Practicum is in a pre-kindergarten classroom, then Student Teaching must be in a kindergarten-grade 3 classroom. If Practicum is in a K-3 classroom, then Student Teaching must be in a pre-k classroom. Practicum and/or Student Teaching may be in an inclusive classroom. Required for early childhood teaching license.

EST 575 Practicum in Speech and Hearing Therapy (4 credits). Prerequisite: Prior application and approval of the Office of Field Services. Four days a week for one semester observing and teaching under the direction of a mentor teacher and college supervisor; weekly seminar required.

EST 580 Student Teaching in Early Childhood Education (4 credits). Prerequisite: Requires prior application and approval of the Office of Field Services and successful completion of Portfolio Checkpoint #3. Course prerequisites listed on application including EST 570. Requires five full days per week for one semester, observing and teaching under the direction of a mentor teacher and university supervisor; includes seminar. Practicum (EST 570) Student Teaching must be in an urban classroom. Both may be urban. If Practicum is in a pre-kindergarten classroom, then Student Teaching must be in a kindergarten-grade 3 classroom. If Practicum is in a k-3 classroom, then Student Teaching must be in a pre-k classroom. Practicum and/or Student Teaching may be in an inclusive classroom. Required for early childhood teaching license.

Deleted: Prior application and approval of the Office of Field Services. Requires four half-days per week for one semester, typically in a preschool setting, observing and teaching under the direction of a mentor teacher and a University supervisor. Practicum or Student Teaching (EST580) must be in an urban setting. Both may be. Placement may be made in a setting that provides for the inclusion of children with special needs. Includes a seminar. Required for early childhood teaching license

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Deleted: Prior application and approval of the Office of Field Services. University-supervised student teaching experience, typically in a kindergarten or primary grade classroom. Practicum (EST 570) or Student Teaching must be in an urban setting. Both may be. Placement may be made in a setting that provides for the inclusion of children with special needs. Five full days per week for one semester under the direction of a mentor teacher. Includes a seminar. Required for early childhood teaching license.

EST 574 Practicum in Foreign Language (3 Credits). *Prerequisites: Prior application and approval of the Office of Field Services; must be taken concurrently with EDC 512 and EDC 513.* Structured field experience designed to accompany elementary and secondary methods courses in foreign language 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 an elementary, middle, or senior high school classroom under the direction of a mentor teacher and a university supervisor; includes seminar.

EST 577 Practicum in Visual Arts Education (2 Credits). *Prerequisites: Prior application and approval of the Office of Field Services; must be taken concurrently with EDC 510.* Structured field experience designed to accompany elementary methods course in visual arts 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 an elementary, middle or senior high school classroom under the direction of a mentor teacher and a university supervisor; includes seminar.

EST 594 Student Teaching in Foreign Language (10 Credits). Five full days a week for one semester in elementary and secondary school classrooms observing and teaching under the direction of a mentor teacher and university supervisor. Required for multi-age teaching license.

EST 597 Student Teaching in Multi-Age Art (10 Credits). Five full days a week for one semester in elementary and secondary school classrooms observing and teaching under the direction of a mentor teacher and university supervisor. Required for multi-age teaching license.

Credit hour change June 2007

EST 575 Practicum in Speech and Hearing Therapy (4-8 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 mentor teacher and college supervisor; weekly seminar required.

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New Course Approved July 31, 2007

FIN 673 CFA Level I Preparation (2-4 credits). Follows CFA Institute's curriculum for CFA Level I examination. Coverage includes: ethics and professional standards; quantitative methods: statistics and time value principles; economics: macro, micro, and global; accounting: financial statement analysis; corporate finance; investment/valuation tools: equity investments, debt investments, derivative & alternative investments; and portfolio management.

Deleted from Inventory April 2007

~~FRL 630 Capstone Conference (2 credits)~~

~~Participants will demonstrate their transformation as leaders by presenting a final product that demonstrates their learning to an authentic audience at a conference that they will coordinate.~~

New Courses approved April 2007

FRL 633 Organizational Leadership Survey (1-0-1). This course is required at the beginning of the Organizational Leadership Program where students will be oriented to the Masters of Education with a Specialization in Organizational Leadership. They will learn how the program is organized, meet their professors, and learn how to use the online learning system. They will also have the opportunity to get to know their fellow cohort members.

FRL 636 Organizational Leadership Capstone (1-0-1). This course is required at the end of the Organizational Leadership Program where students will present their portfolios to an authentic audience of their superintendents, colleagues and peers at a conference they will organize in the *Capstone Conference*. Portfolios will contain evidence of their work in their schools and in community organizations.

Revised April 2006

HCA 500 Decision Modelling and Statistics for Healthcare Managers (3 credits). *Prerequisites:* OMS 500, OMS 503, HCA 515 and HCA 516. This course may be taken concurrently with HCA 515, HCA 516. This course presents a framework for decision making in the health care environment. Students will be exposed to a series of quantitative techniques that are useful in analyzing complex decision-making situations that arise in the health care sector. Students will develop skills in : I) formulating an abstract mathematical representation of the decision-making problem; II) choosing the appropriate quantitative technique to analyze the problem and; III) translating the solutions to the problem from the mathematical model back into the original "real world" situation; IV) the manipulation and interpretation of large data sets. This course is also designed to provide you with the ability to apply quantitative methods to epidemiology. Insights gained from this course will facilitate problem solving and understanding how epidemiology relates to management decision making in the second course in quantitative methods.

Health Care Administration

Title Change April 2006

HCA 516 Seminar in Health Policy and Quality (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.

Deleted: 516 Social Environment of Health Care

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HCA 640 Health Care Law and Ethics (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.

Credit Hour Change April 2006

HCA 660 Integrative Business Strategy for Health Care Administrators (3-0-3). Prerequisites: Completion of all MPA/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.

Deleted: 4-0-4

HCA 690 Administrative Internship (4 credits). Prerequisite: Permission of the HCAP Director and Executive-in-Residence. Administrative internship for MBA/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.

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New Courses – Approved April, 2007

HED 559 Principles of Health Education (3-0-3). Examines the fields of health education and health promotion in terms of historical development, professional standards, roles, theoretical foundations, ethics, application and settings. Program planning and implementation will also be examined.

HED 585 Worksite Health Promotion (3-0-3). Areas of emphasis will include the development of program rationale and mission statements, use of needs assessment data to implement priority programs, determination of resources and roles for cost sharing, development of marketing packages to promote programs, a review of “best practices” in worksite health, a critique of internet resources and selected health risk appraisals, discussion of liability issues and the design of an evaluation.

HED 587 Eating Disorders (3-0-3). Designed for intermediate or advanced graduate students. Provides an overview of the epidemiology, physiology, chronic disease implications, and current state of preventive and therapeutic interventions for eating disorders in adults and children. Also includes public health policy approaches to combating obesity and facilitating healthy nutrition and physical activity behaviors. Combination lecture/discussion.

Course Title and Description Change Approved May 2007

HIS 502 [US Slavery, Abolition and Politics, 182-1860 \(4-0-4\)](#). Examines the American slave system of the nineteenth century, challenges to slavery from the rise of abolitionism and antislavery, the South's effort to defend and expand slavery, and the resulting political contest that eventually led to southern secession and civil war. African-American Experience: Race & Racism; Human Diversity; Western Culture and Civilization; Writing Across the Curriculum.

Deleted: History of American Political Parties

Deleted: Survey of the development of the American party system from 1800 to the present. Examines distinctions between party and faction, Federalist party, Jacksonian Democrats, Whigs and Republicans, third parties, party organization at local and national levels, voting behavior, and election strategies.

Course deletion Approved May, 2007

[Delete HIS 518](#)

Course title Change Approved May, 2007

HIS 519 [History of US Tourism \(4-0-4\)](#). Considers the role of tourism in American society and culture from the early 19th to the early 21st century. It emphasizes how historical memory shapes tourist attractions, and how tourism shapes local, regional, national, racial, and ethnic identity.

Deleted: 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.¶

Deleted: U.S. Tourism, Memory, and Identity

Course Title Change (approved 2/21/07)

HIS 515 Radicals and Reformers in 19th C. US (4-0-4) Examines the economic, social, and political transformation of the United States in the nineteenth century. Topics typically include the rise of industrial capitalism and social and political responses such as abolitionism, sectionalism, the women's rights movement, labor activism, and Populism.

**Deleted: 19th-Century America:
Industrial Capitalism and its
Dissenters**

New Courses (approved 2/21/07)

HIS 579 Collective Survival in the African Diaspora (4-0-4). Considers the recent history (1400 to the Present) of the African Diaspora in the global community, with an emphasis on the social and cultural histories of African-descended peoples in the Americas. Students will examine recent scholarship on the African Diaspora and conduct their own research, using oral history interviews, archival materials, and other sources.

HIS 599 Public History Internship (4 credits) Public history internships are site-focused projects that typically take place in museums, historical societies, archives, heritage tourism sites, parks, and community-based organizations. Interns work with experienced practitioners to develop public exhibits and research collections, design and guide public tours, or undertake other history-related projects. Interns gain invaluable career insights by learning how organizations research, collect, preserve, and interpret history in public settings.

Title Change approved 10/07

| **HIS 527 American Sexual Communities and Politics (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 United States.

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New Course approved June, 2006

HIS 586 History of the Middle East to 1798 (4-0-4). Examines the most important factors that influenced the development of the modern Middle East between the 18th through the 21st centuries. Subjects include colonial empires in the Middle East, the impact of Westernization and modernity, the establishment of nation states, the Israeli-Palestinian conflict, the Iranian revolution, Cold War politics, influence of oil, political Islam and terrorism, America's involvement, and the Middle East post 9/11. No previous background knowledge of Middle East History is necessary.

New Courses Approved March, 2006

HSC 511 Service Learning in Occupational Therapy (2-0-2). Students in the course will work in community agencies to apply and assess the concepts and principles from the MOT curriculum. Provision of service to the community, exposure to community issues, and development of service-delivery skills will be emphasized. Time will be spent discussing and integrating service-learning experiences with curriculum content and reflecting on the learning that is taking place in the experience. Course may be repeated.

HSC 515 Musculoskeletal Evaluation and Intervention (1-2-2). This course is designed to teach at the knowledge, comprehension, and application levels the musculoskeletal body structures and functions of a person. It also introduces, applies, and analyzes theoretical frames of reference used by occupational therapists to address the evaluation and intervention of the musculoskeletal areas of function. The course lays the foundation for use of this information at higher levels of all three learning domains and in more integrated way in later courses. Emphasis on documenting efficacy of intervention.

Course Title and Credit Hour Change Approved March, 2006

HSC 527 Neuromuscular Evaluation and Intervention (2-2-3). Prerequisite: Enrollment in MOT Program or permission of instructor. 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.

Deleted: Neuromusculoskeletal

Deleted: 3-2-4

New Course approved April, 2007

IME 510 Advanced Engineering Statistics (3-0-3). *Prerequisite: Graduate Standing.* Concepts of statistics and probability for engineers, including probability theory, probability distributions, statistical sampling, statistical estimation, confidence intervals, hypothesis testing, goodness of fit tests, correlation, linear regression, and one factor ANOVA.

IME 520 Applied Engineering Design (3-0-3), Statistical considerations for designing effective engineering experiments. Topics include: planning of comparative experiments; sampling techniques; randomization and blocking, including incomplete blocking; Latin factorial and fractional factorial designs.

Deleted:). Prerequisites: Undergraduate course in statistics and probability (ESC 310), graduate standing, and permission of instructor.

IME 575 Systems Simulation (3-0-3), 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. Emphasis is on the use of simulation modeling in decision-making, through a series of projects involving decision problems.

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Deleted:). Prerequisites: Undergraduate course in statistics and probability (ESC 310) and permission of instructor.

Course Title Change approved April 2006

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. This is a Web-based course.

INB 690 Professional Internship in International Business (2-4 credits). *Prerequisites: MBA 602 and permission of the IB Program Director.* Provides the student with professional work experience in a global business organization that extends the curriculum and provides meaningful experience related to the student's area of interest. Term report required.

INB 696 Special Topics in International Business (1-4 credits). *Prerequisite: MBA 602 or equivalent.* Explores selected problems or topics in international business with lectures, discussions, exercises and or field projects. May be repeated for different topics with permission of the Program Director.

INB 698 Independent Study (1-4 credits). *Prerequisites: MBA 602 and permission of the IB Program Director.* Study of a significant problem or area in international business, conducted under the supervision of a faculty advisor. Proposal and final report required.

New Course approved September 2006

MCE 524 Applied Heat Transfer (4 credits). *Prerequisite: MCE 524.* Convective heat and mass transfer analogies; heat exchangers; enhanced convection heat transfer; boiling, condensation, two-phase flow and heat transfer; radiation in enclosures and gaseous media; micro- and nanoscale heat transfer; heat transfer applications (e.g. heat pipes, cooling of electronics, applications in biological/biomedical systems, alternative energy systems, mini-/microsensor systems, etc.).

Course Title Change Approved 7/31/07

MKT 501 ~~Marketing Management~~ (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.

Deleted: Marketing Theory and Practice

MKT 601 ~~Marketing Strategy~~ (3-0-3). Prerequisite: MKT 501 and ACT 501 or equivalents. 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.

Deleted: Marketing Management

Course Title Changes Approved 8/2/07

- MKT 800** Doctoral Seminar in Measurement and Scaling (3-0-3). 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.

Deleted: Research Design and Measurement
- MKT 801** Doctoral Seminar in 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.

Deleted: Marketing Theory
- MKT 802** Global Seminar in Global Marketing (3-0-3). 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.

Deleted: Global Business Strategy: Theory and Practice
- MKT 803** Doctoral Seminar in Marketing Strategy (3-0-3). 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.

Deleted: Strategic Marketing and Tactical Decisions
- MKT 804** Doctoral Seminar in Multivariate Techniques in Marketing (3-0-3). 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, and other analysis techniques. Uses computer packages to analyze data.

Deleted: Multivariate Techniques in Marketing
- MKT 805** Doctoral Seminar in Consumer Behavior (3-0-3). Introduces current theoretical and methodological issues in consumer behavior. Emphasizes critical evaluation of the relevant literature and explores avenues for theory development and research.

Deleted: Theory and Research in Buyer Behavior

MPH 608 Public Health Practice and Issues (3 credits). *Prerequisites: MPH 601, MPH 602, MPH 603, & MPH 604.* In an organizational setting, the following topics will be explored: informatics and communication, diversity and cultural proficiency, and ethics. These topics are emerging public health issues, which will be applied in a practice setting. This is a required “limited practicum” course in the Master of Public Health program with two-thirds of the content being presented online and one-third in a practice setting.

New Course approved May, 2006

MUS 516 Collaborative Piano and Accompanying (3 credits). Instruction in the technique and art of musical collaboration on the piano.

New Course approved 2/7/07

MUS 552 Career in Composition (3-0-3). The course is designed to study aspects of how to build and maintain a career as a composer in a competitive music industry. Defining and researching the many resources available to composers within this industry will be coupled with detailed assignments and projects focusing on proposal composition and the vital understanding of music publishing, commercial recording, commissioning, contracts and publicity. (Offered only in odd numbered years)

Non-Profit Administration and Leadership (New June, 2007)

NAL 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 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 NAL 601. Cross-listed with PAD 501, PDD 501 and UST 501.

NAL 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. Cross-listed with PAD 510 and UST 510.

NAL 550 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 intergovernmental environment; community relations; needs assessment; and planning and performance measurement. A highly interactive, hands-on approach emphasizing discussion, case analysis, and problem solving. Cross-listed with PAD 550

NAL 601 Applied Quantitative Reasoning I (4-0-4). Prepares students to apply quantitative reasoning to public administration, planning, and policy design decisions. Presents the logic of quantitative analysis. Introduction 274 / Graduate Course Descriptions Cleveland State University
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, PDD 601 and UST 601.

NAL 602 Applied Quantitative Reasoning II (4-0-4). Prerequisite: NAL 601 or permission of instructor. 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, PDD 602 and UST 602.

NAL 603 Public Finance and Economics (4-0-4). 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. Cross-listed with PAD 603, PDD 603 and UST 603.

NAL 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 that examines the principal conceptual and theoretical bases for understanding the behavior of complex formal organizations, especially large-scale public bureaucracies. Cross-listed with PAD 604.

NAL 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. Cross-listed with PAD 630.

NAL 651 Fund Raising and External Relations for Nonprofit Organizations (4-0-4). 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 developing productive relations with key stakeholder groups, including clients, area residents, members, trustees, legislators, the press, and other important constituents. 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. Cross-listed with PAD 651.

NAL 652 Financial Administration and Control of Nonprofit Organizations (4-0-4). 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. Cross-listed with PAD 652.

NAL 656 Capstone Seminar in Nonprofit Leadership and Management (4-0-4). This seminar considers key aspects of leadership and management in the nonprofit sector as they are applied in practice. Integrates significant theory and research results with practical skills. This course is intended as a capstone experience for students pursuing the graduate certificate in nonprofit management and/or the MPA nonprofit specialization. Cross-listed with PAD 656.

New Courses Approved August , 2007

NAL 593 Special Topics in Nonprofit Administration and Leadership (4-0-4). Special offerings varying with faculty expertise and student interest. A typical subject is Philanthropy and the Nonprofit Sector. Specific topics listed in the course schedule. Crosslisted with PAD 593.

NAL 693 Special Topics in Nonprofit Administration and Leadership (4-0-4). Special offerings varying with faculty expertise and student interest. A typical subject is Philanthropy and the Nonprofit Sector. Specific topics listed in the course schedule. Crosslisted with PAD 593.

PAD 593 Special Topics in Nonprofit Administration and Leadership (4-0-4). Special offerings varying with faculty expertise and student interest. A typical subject is Philanthropy and the Nonprofit Sector. Specific topics listed in the course schedule. Crosslisted with NAL 593.

NAL 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 Services. Cross-listed with UST 594, PAD 594, and PDD 594.

Additional Nursing Course Descriptions (New May, 2006)

NUR 520 Curriculum Development in Nursing (3-0-3)

Prerequisite: Admission to graduate program or permission of instructor. Facilitates the application of nursing and educational theories, concepts, and models to facilitate advanced critical thinking in the area of curriculum planning, design, development, implementation, and evaluation in nursing education programs. Historical and philosophical foundations of nursing education are examined. Societal factors influencing nursing education and student achievement are also examined. The roles, competencies, and expectations of faculty members at a university are explored relative to teaching, scholarship, community service, and ethics.

NUR 626 Practicum in Nursing Education (4-8-4)

Prerequisite: NUR 520 (may be taken concurrently) or permission of instructor. Enables the learner to experience the roles of nurse educators through a teaching practicum experience with a nurse educator. During these learning experiences students will interact with their population in their cognate area, and develop skills and competencies in the application of teaching-learning strategies and the clinical supervision of nursing students. It involves a teaching practicum/fieldwork and seminar discussion of content related to the teaching-learning experience.

NUR 627 Issues and Trends in Nursing Education (3-0-3)

Prerequisite: NUR 520, NUR 626 (NUR 626 may be taken concurrently). Focuses on current trends and issues regarding nursing education. The topics include role of nursing faculty as teacher, scholar, citizen, professionalism, macro-socio-cultural factors influencing nursing education, and career development

Credit hour change June 2006

OMS 513 Production Planning and Control (~~4-0-4~~). Prerequisite: OMS 511 or equivalent. Planning, scheduling, and controlling of activities related to the production of goods are examined. Topics include manufacturing planning and control, short-term forecasting systems, demand management and order servicing, sales and operations planning (SOP), master production scheduling (MPS), enterprise resource planning (ERP), supply chain management (SCM), inventory, material requirements planning (MRP), bills of material (BOM), capacity requirements planning (CRP), distribution requirements planning (DRP), advanced concepts in material requirements planning.

Deleted: 3-0-3

OMS 806 Strategic Supply Chain Management (3-0-3). Provides the tools for research in strategic supply network management in particular and supply chain management (SCM) in general. Grounded on a paradigm of strategic management theory emphasizing the development of Collaborative advantage, strategic supply network management underscores the premise that a supply chain is composed of a network of interdependent relationships developed and fostered through strategic collaboration with the goal of deriving mutual benefits. Students develop a familiarity with the literature base and research paradigm(s) in supply chain management. In addition, students develop a broader understanding of the research issues in POM in general and establish a POM research agenda.

Course title change approved 10/07

OMS 804 Supply Chain Models (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 273 / *Graduate Course Descriptions (Rev. 06/07) Graduate Catalog 2006-2008* requirements planning, operations scheduling, project scheduling, line balancing, and production control.

Deleted: Production Planning and Inventory Control

New Cross-listing with existing courses Approved 5/4/07

| **PAD [515/600](#) 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 [516/603](#) Public Finance and Economics (4-0-4)**. 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. Cross-listed with PDD 603 and UST 603.

| **PAD [517/617](#) 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. Cross-listed with PSC 605.

| **PAD [518/630](#) 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.

Title Change approved 10/07

UST 572 Negotiation and 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 & PAD 572.

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Course Title Change Approved August, 2007

- | **PSC 635 Public Sector [Information](#) Management (4-0-4)**. Analysis and discussion of public policy management, leadership, and statesmanship. Cross-listed with PAD 635.

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Course Title Change Approved May, 2007

PDD 611 ~~Planning Studio~~ (4-0-4). This final semester studio course is the culmination of the MUPDD program. Students conduct various studies on a wide range of planning topics, including planning process, economic design, financial market, statistical project management, and environmental aspects for a real client. Course concludes with a presentation to clients and the community

Deleted: Capstone Studio

[Title Change Approved 11/21/07](#)

PDD 577 [Regional Issues and Planning \(4-0-4\)](#). 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.

Deleted: Regional Issues

UST 577 [Regional Issues and Planning \(4-0-4\)](#). 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.

Deleted: Regional Issues

New Courses – Approved April, 2007

PED 583 Media Literacy Across the Curriculum (3 credits). Explores the power and influence of media on the lives of students and parents and provides teachers with the understanding and materials needed to include media literacy across the curriculum. Focuses on the strategies needed to analyze, evaluate, deconstruct and produce counter media messages. Strategies are examined to help students think more critically about the media, to recognize covert and unhealthy media messages and to understand the political and economic realities of media in today's society. Avenues of media literacy advocacy are examined.

PHL 544 Bioethics and Biotechnology (4-0-4). An application of bioethical viewpoints and major ethical theories to issues in biotechnology such as informed consent in genetic modification, potential risk and harm to humans and nonhuman animals, health resources used for human enhancement, genetic modification of agricultural products, stem cell research, use of human embryos, and human cloning. Tutorials on human genetics and recombinant DNA will be covered.

New Course approved September 2006

PSC 529 Politics and Political Economy of the European Union (4 credits). The institutions and policy making process of the European Union (EU) and the theoretical traditions in the study of European integration. The institutional form of the EU and the type of European political economy and “policy” which is emerging.

New Course – (effective Fall 2007)

PSY 528 Intellectual Assessment and Practicum in School Psychology (4-0-4). *(Prerequisite: Open only to students enrolled in the school psychology program. Provides graduate students with basic knowledge of theories of intelligence, familiarity with current practices and issues in intelligence testing, and competence in the administration, scoring, and interpretation of measures of intelligence commonly used in school settings.*

PSY 538 Intellectual Assessment and Practicum for Clinical Psychology (4-0-4). *(Prerequisite: Open only to students enrolled in the Clinical Program). Lecture and practicum experience in the administration, scoring 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. Ethical and cultural issues are included to help the student work with diverse clients.*

Deleted: Intellectual Assessment and Practicum

New Course – Approved April, 2007

PSY 531 Computer Applications of Advanced Statistics (4-0-4). Designed to provide students with an experience handling and cleaning data, plus some basic skills of analyzing quantitative data using statistical software. Students will learn to run statistical procedures for both univariate statistics and multi-variate statistics including simple regression, multiple regressions, reliability, factor analysis, cluster analysis and discriminant analysis.

[Prerequisite change \(Approved 12/14/06\)](#)

PSY 564 Psychoeducational Intervention (4-0-4). Prerequisites: PSY 536 and permission of instructor. The application of functional assessment and consultation methods to academic problems in school settings, including strategies for data collection, intervention design, progress monitoring, and techniques for facilitating adherence to intervention plans.

Deleted: , PSY 537,

PSY 631 Job Analysis and Performance Management (4-0-4). *Prerequisites: PSY 511, PSY 518 or PSY 522 or permission of instructor.* Designed to cover the important theories and practices in job analysis and performance management. Students will learn how job analysis information can improve the reliability, validity and practicality of vital human resource management functions.

New Course approved September 2006

SPH 535 Organization and Administration of a Public School Speech and Hearing Program (3 credits). *Prerequisite: SPH 335.* Study of various aspects of instituting and maintaining a public-school speech-and-hearing program; special emphasis on remedial reading and learning disabilities, scheduling problems, screening and case selection, group therapy, and parent and child counseling.

Credit hour Change June 2007

SPH 539 Advanced Practicum in Speech- Language Pathology (1.6 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.

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New Course (approved 12/14/06)

SPH 549 Advanced Speech and Language Development (3-0-3). Prerequisite: Enrollment is limited to post-baccalaureate, non-degree graduate, and degree-seeking graduate students interested in pursuing a graduate degree in speech-language pathology. Exploration of phonological, semantic, syntactic, and pragmatic language development in typically developing children.

SWK 695 Health Care Practice, Planning, & Policy Issues (3-0-3). Provides a comprehensive overview of social work practice in the range of health care settings. Addresses the historical background of social work in health care, theoretical perspectives, organizational considerations, interdisciplinary teamwork, client problems, social worker skill and knowledge requirements, values, ethics and diversity considerations, recent developments in the field, and a vision of the future of social work in the health field. Specific attention is given to recent changes in the organization and financing of health care, providing an understanding of how health policy impacts health practice.

| UST 802 [Frameworks 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.

Deleted: Logic of Inquiry