

Graduate Record 72B
April, 2005

To: Regular and associate members of the Graduate Faculty
Academic Deans

From: Peter J. Kasvinsky
Dean of Graduate Studies and Research

Date: April 21, 2005

**AGENDA FOR THE SPRING 2005
GRADUATE FACULTY MEETING**

*The Spring Semester meeting of the Graduate Faculty will be held at
3:30 p.m., Thursday, May 5, 2005,
Cushwa B024*

Agenda will consist of:

1. Approval of the minutes of the April 28, 2004 meeting of the Graduate Faculty (attached)
2. Call for reports and recommendation of:
 - Graduate Council
 - Policy Committee
 - Curriculum Committee
 - Graduate Dean
3. Other business

Attachments: 4/28/04 minutes (Graduate Record 72A)

GRADUATE COUNCIL MEMBERSHIP 2004-2005

Bob Beebe	Ed. Admin. Res. & Found.	Educ. College Grad Studies
Darla Funk	Dana School of Music	F&PA Program Director
Randy Hoover	Teacher Education	Education At Large
Patricia Hoyson	Nursing	H&HS College Grad Studies
H. W. Shawn Kim	Mechanical Engineering	Engr. Program Director
Tony Kos	Management	WCBA Program Director
Scott Martin	Civil/Environ. & Chem. Engr.	Engr. College Grad Studies
Carol Mikanowicz	Health Professions	H&HS Program Director
Jim Mike	A&S Dean's Office	A&S At Large
Ken Miller	Counseling	Educ. Program Director
Susan Russo	Art	F&PA College Grad Studies
James Schramer	English	A&S Program Director
David Stout	Accounting & Finance	WCBA College Grad Studies
Mark Womble	Biological Sciences	A&S College Grad Studies

Graduate Council Chair – Anthony Kos
 Graduate Council Secretary – Darla Funk

Grievance Committee Chair – Carol Mikanowicz & Mark Womble, co-chairs

Graduate Curriculum Committee Chair – Patricia Hoyson
 membership: Cynthia Anderson, Vice President for Student Affairs
 Richard Burden, Mathematics & Statistics
 Randy Hoover, Teacher Education
 Tammy King, Criminal Justice
 Susan Russo, Art
 Elvin Shields, Mechanical & Industrial Engineering

Policy Committee Chair – James Mike
 membership: Bob Beebe, Educational Administration, Research & Foundations
 Tammy King, Criminal Justice
 Doug Price, Civil/Environmental & Chemical Engineering
 Clem Psenicka, Management
 Steve Schildcrout, Chemistry
 John Turk, Dana School of Music

GRADUATE COUNCIL PRESENTATION

The following motions have been approved by Graduate Council since May 2004:

1. Addition to “Academic Suspension” language on page 32 of the 2004-2006 *Graduate Bulletin*:

Any student in non-degree status whose cumulative grade point average drops below the minimum (3.0) will be prohibited from enrolling in further graduate coursework.

2. Addition to “Academic Standards” language on page 31-32 of the 2004-2006 *Graduate Bulletin*:

For degree programs requiring up to 39 s.h. for completion, a student may count no more than 6 s.h. of coursework with a grade of C toward the minimum graduation hour requirements. For students in programs requiring 40 or more s.h. for completion, no more than 9 s.h. of coursework with a grade of C may count toward the minimum graduation hour requirement.

3. Addition to “Academic Standards” language on page 31-32 of the 2004-2006 *Graduate Bulletin*:

A provisionally admitted graduate student must maintain a minimum grade-point average of 3.0 on a 4.0 scale. A provisional student whose GPA falls below a 3.0 will immediately be dismissed.

ASSISTANTSHIP ALLOCATION

2005-2006 Regular Graduate Assistant Allocations

Biology	5	Accounting & Finance	3
Chemistry	6	Management	6
Economics	2	Marketing	3
English	7	Secondary Education	4
History	7	Counseling	9
Mathematics	5	Early & Middle Childhood Educ.	4
Civil Engineering	3	Special Education	3
Electrical Engineering	2	Educational Administration	1
Mechanical Engineering	2	Music	10
		Criminal Justice	3
Writing Lab	2		
Math Lab	2		
Reading Lab	2		
Total	91		

Additional Allocation of Assistantships in STEM Disciplines

The following additional graduate assistantship positions have been approved for FY 2006 and FY 2007.

Biological Sciences	1
Chemistry	1
Geological & Environmental Sciences	1
Mathematics & Statistics	1
College of Engineering (all depts.)	2 total
Economics	1
*Social Work	1

*Criminal Justice	1
**English (for MFA in Creative Writing)	1
Computer Science & Information Systems	1
Total	11

*Not a STEM area, but identified as a priority

**Required as an institutional program match to support the program

Some of the college deans have made part-time teaching funds available for teaching assistant positions. Graduate Assistant/Intern positions are also available.

GRADUATE FACULTY MEMBERSHIP

Regular Members (New or Renewals approved since May 2004)

Isam E. Amin, Geological & Environmental Sciences
Richard C. Baringer, Educational Administration, Research & Foundations
Robert J. Beebe, Educational Administration, Research & Foundations
Bege K. Bowers, Provost's Office/English
Laura Buch, Dana School of Music
Martin Cala, Mechanical & Industrial Engineering
James Conser, Criminal Justice
Lauren Cummings, Teacher Education
Gunapala Edirisooriya, Educational Administration, Research & Foundations
Kent Engelhardt, Dana School of Music
Dorcas Fitzgerald, Nursing
Betty Greenway, English
Patricia Hoyson, Nursing
H.W. Shawn Kim, Mechanical & Industrial Engineering
Don Martin, Counseling
Donna McNierney, Teacher Education
Till Meyn, Dana School of Music
Daryl W. Mincey, Chemistry
Peter Norris, Chemistry
Douglas Price, Civil/Environmental & Chemical Engineering
Howard J. Pullman, Teacher Education
Sharon Shipton, Nursing
William Slocum, Dana School of Music
Dan Suchora, Mechanical & Industrial Engineering
Julie Thomas, Psychology
Charles Vergon, Educational Administration, Research & Foundations
Yaqin Wang, Economics

Program Reviews (Self-Studies)

Complete: Doctor of Education (Ed.D.)

In progress: Biological Sciences (from 2003-2004)
Business Administration (from 2003-2004)
Chemistry
English
Geological & Environmental Sciences
Teacher Education—Master Teacher Secondary Option C

CURRICULUM COMMITTEE**New Graduate Courses**

AMER 6982. *Special Topics*. Specialized topics selected by the staff. May be repeated once with a different topic. Prereq: Permission of the American Studies Program Coordinator and instructor. 3 s.h.

AMER 6985. *Independent Study*. Individual study in American Studies or a related discipline under the supervision of a faculty member. May be repeated once. Prereq: Permission of the American Studies Program Coordinator and instructor. 3 s.h.

ART 6940. *Studio Problems in Printmaking*. Individual research into monoprinting, intaglio etching, relief printing, silkscreen, lithography and monotype. May be repeated for a maximum of 6 semester hours. Prereq: portfolio presentation and permission of instructor. 3 s.h.

ART 6941. *Studio Problems in Printmaking*. Continuation of 6940. May be repeated for a maximum of 6 semester hours. Prereq: Art 6940. 1-3 s.h.

ART 6942. *Studio Problems in Printmaking*. Continuation of 6941. May be repeated for a maximum of 6 semester hours. Prereq: Art 6941. 1-3 s.h.

BIOL 6940 *Microbial Physiology*. This course will present advanced topics in biomolecule synthesis, molecular biology, bacterial genetics, gene expression, energy production photosynthesis, bacteriophages and microbial stress response. An integrative laboratory project emphasizing some of these topics will be included. Three hours lecture and three hours lab. Prereq: Graduate standing. 4 s.h.

BIOL 6948 *Biology of Fungi*. Examination of fungal and fungal-like organisms with emphasis placed upon their taxonomy, phylogenetic relationships, structure, function, physiology, genetics, and ecology. Their role in agriculture, medicine, and scientific research is explored as well. Three hours lecture and three hours laboratory. Prereq: BIOL 3702 or graduate standing. 4 s.h.

BIOL 6949 *Cellular and Molecular Mycology*. Specific cellular and molecular processes in fungal organisms will be examined in great detail. Topic areas include morphogenesis, dimorphism, signal transduction, gene expression and regulation, cellular differentiation, nutritional physiology, primary and secondary metabolism, and host-parasite interactions. Prereq: BIOL 3702 or equivalent and graduate standing. 3 s.h.

BIOL 6966 *Protein Analysis*. Students will gain experience in the analysis of proteins. Protein structure and function relationships are discussed in the context of their relevance in analytical techniques. Methods presented and used in class include: protein quantification, two-dimensional gel electrophoresis, liquid chromatography, gel image analysis, and amino acid analysis. Two hours lecture and four hours laboratory. Prereq: BIOL 5836 or equivalent, and graduate standing. 4 s.h.

BIOL 6981. *Teaching Practicum: 1551 Anatomy and Physiology*. A course dealing with the principles of pedagogy for Biology 1551, Anatomy and Physiology 1. This course addresses classroom and laboratory topics in human anatomy and physiology, with an emphasis on the relationships between instruction and learning outcomes. Required of Graduate Teaching Assistants providing instructional support for Anatomy and Physiology 1. May be repeated. 1 s.h.

BIOL 6982. *Teaching Practicum: 1552 Anatomy and Physiology*. A course dealing with the principles of pedagogy for Biology 1552, Anatomy and Physiology 2. This course addresses classroom and laboratory topics in human anatomy and physiology, with an emphasis on the relationships between instruction and learning outcomes. Required of Graduate Teaching Assistants providing instructional support for Anatomy and Physiology 2. May be repeated. 1 s.h.

GRADUATE RECORD 72B

April 2005, p. 6

BIOL 6989. *Graduate Research Experience*. Independent study for graduate students wishing to learn specific biological research techniques. Applicable only to Biology graduate students following the Non-thesis or Biology Education degree option. May be repeated for up to a total of 3 s.h. Prereq: Permission of instructor or department chair. 1-3 s.h.

COUNS 7029. *Professional Issues in Student Affairs*. The purpose of this seminar course is to expose graduate students to contemporary issues shaping student affairs practice. Topics will vary but will focus on the development of knowledge and skills in emerging areas relevant to professionals in student affairs. 3 s.h.

COUNS 7042. *Organizational Theory & the College Environment*. The purpose of this course is to provide graduate students with a comprehensive examination of the complex study of organizational theory and campus environments. Students will be challenged through a variety of instructional approaches to evaluate their assumptions about organizations, assess the impact of campus environments on student learning, and reframe their understanding of student affairs organizations. 3 s.h.

COUNS 7044. *Leadership in Student Affairs Organizations*. This course will provide graduate students with an opportunity to read, reflect, and integrate important theories and concepts related to leadership. Students will be challenged to reflect on their core values and principles, to see leadership through a new paradigm, and to formulate their own philosophy of leadership. 3 s.h.

COUNS 7046. *Assessment in Student Affairs Practice*. The purpose of this course is to assist graduate students in learning to effectively conduct assessment and program evaluation. In particular, the course is intended to promote the understanding of assessment in enhancing practice. By learning the usefulness and appropriateness of various assessment methodologies, the emerging practitioner will learn to provide evidence for effective practice. 3 s.h.

ECEGR 6933. **Digital Systems: VHDL Design*. Local minimization, design of combinational networks; design of synchronous and asynchronous sequential machines; design of digital systems using VHD, modeling combinational and sequential networks, compilation, simulation, and synthesis of VHDL codes. 3 s.h.

ECEGR 6934. **Digital Systems: Computer Arithmetic*. Number system representations: standard and unconventional formats. Design of two-operand and multi-operand fast adders. High-speed multiplication and division algorithms. Floating-point numbers, algorithms, and error control. Hardware algorithms for function evaluation. Prereq: ECEGR 6933. 3 s.h.

EDADM 6993. *Special Topics in Educational Administration*. Admission to Master's degree program in Educational Administration (1 – 4 s.h.)

FNLG 6921. *Foreign Language for Reading I*. Intensive study of grammar and vocabulary in a foreign language with the goal of conducting scholarly research using materials available in that language. By the end of the course students will be able to read some materials in the target language for content. Prereq: Graduate standing and permission of Chair of Department in which student is enrolled. 3 s.h.

FNLG 6922. *Foreign Language for Reading 2*. Continuation of FNLG 6921 with emphasis on translation. By the end of the course students will be able accurately to translate materials in the target language. Prereq: FNLG 6921 and permission of Chair in Department in which student is enrolled. 3 s.h.

ISEGR 6905. *Applied Statistics for Design, Quality and Productivity*. Review of probability and statistics, uncertainty and decision making, statistical inference, analyzing sources of variation. Risk and reliability, risk assessment, robust and quality design, regression analysis, and analysis of variance. Design of experiments, single factor and multifactor experiments, design of experiments for product characteristics, process characteristics, and process optimization. General statistical process control, special charts and sampling techniques for control, monitoring, and auditing quality. Economic issues in process/quality control. Prereq: ISEG3710 or equivalent. 3 s.h.

ISEGR 6935. *Decision Analysis for Engineering*. Review of probability and statistics, subjective probability, probability models, using data, Monte Carlo simulation, and value of information. Introduction to decision analysis,

elements of decision problems, structuring decisions, making choices, and creativity and decision making. Risk attitudes, utility axioms, paradoxes, and conflicting objectives. Prereq: ISEGR 3710 or equivalent, or consent of instructor. 3 s.h.

SPED 6983. *Characteristics & Needs of Children & Youth with Mild/Moderate and/or Moderate/Intensive Disabilities*. Description, classification, development, and academic and social adjustment of children and youth with disabilities ranging from mild to intense, including ADHD and autism. Relates the contributions of diverse disciplines to theory and practices. Developing objectives, planning, and implementing curriculum based on individual student needs addressed in Individual Education Plans. Field experience required. 3 s.h.

Changes in Graduate and Swing Courses

BIOL 6979. *Teaching Practicum: 1545 Anatomy and Physiology*. A course dealing with the principles of pedagogy for Biology 1545, Allied Health Anatomy and Physiology. This course addresses classroom and laboratory topics in human anatomy and physiology, with an emphasis on the relationships between instruction and learning outcomes. Required of Graduate Teaching Assistants providing instructional support for Allied Health Anatomy and Physiology. May be repeated. 1 s.h. (Change in course title and description)

CEEGR 6990. *Thesis*. Hours arranged. May be repeated. 1 – 9 s.h. (Change in course description and hours)

COUNS 5898. *Orientation & Ethical Issues in Community Counseling*. This course provides students with an introduction to the field of professional counseling, and the foundations of community counseling. The course addresses the following topics: history, philosophy, cultural dynamics, advocacy, consultation, technology applications, and trends in professional and community counseling. The counseling profession's ethical standards are also addressed with an emphasis on the ACA code of ethics, and counselor ethical decision making processes. Requirements differ for undergraduate and graduate students. 3 s.h. (Change course title and description)

COUNS 6900. *Counseling Methods and Practice*. Methods and practices of professional counseling relative to relationship, goals, process, and documentation. Relevant ethical guidelines are stressed. Includes experiential skill training. For Counseling majors or by permission of Department of Counseling. Prerequisite or concurrently: COUNS 6962. 3 s.h. (Change in prerequisite)

COUNS 6961. *Orientation and Ethical Issues in School Counseling*. This course provides students with an introduction to the field of professional counseling, and the foundations of school counseling. The course addresses the following topics: history, philosophy, cultural dynamics, advocacy, consultation, technology applications, classroom management issues, and trends in professional and school counseling. The counseling profession's ethical standards are also addressed with an emphasis on the ACA and ASCA code of ethics, and counselor ethical decision making processes. 3 s.h. (Change in course title, description, and hours.)

COUNS 6973. *Group Counseling Theory and Practice*. Theories pertaining to group dynamics, process, interaction, consultation, and counselor intervention. For Counseling majors or by permission of Department of Counseling. Prerequisite or concurrently: COUNS 6962. 2 s.h. (Change in course prerequisite)

COUNS 7001. *Counseling Practicum I*. Supervised individual counseling practice with volunteer clients. Focus upon process, clarification, and resolution of counselee goals and counselor self-awareness/evaluation. Students are required to attend a scheduled orientation in the Community Counseling Clinic prior to the first class. Prereq: COUNS 6900, 6962, 6973, 6980 or 7013A, and 5898 or 6961. 3 s.h. (Change in course description and prerequisite)

COUNS 7009. *School Counseling Internship*. Supervised internship in selected school counseling and human services programs. May be repeated to a maximum of 10 semester hours. For Counseling majors or by permission of Department of Counseling. Prereq: COUNS 7002, 7014D and permission of instructor. 4-8 s.h. (Change in course prerequisite)

COUNS 7021. *Foundations & Functions of Student Affairs*. The primary purpose of this course is to provide graduate students with a comprehensive introduction to the field of student affairs and its role within the context of American higher education. 3 s.h. (Change in course title and description)

COUNS 7023. *Characteristics & Development of College Students*. The purpose of this course is to provide the graduate student with an introduction to the field of college student development and its role within the context of American higher education. Students will be exposed to a range of human development theories and student characteristics that offer insight into the processes of student learning, growth, and development during the college years. 3 s.h. (Change in course title and description).

COUNS 7026. *Legal & Ethical Issues in Higher Education*. This course is designed to provide an introduction to the legal and ethical issues which affect higher education and student affairs practice. The primary goal of this course is to provide an exploration and understanding of legal issues pertaining to the various constituents of colleges and universities. 3 s.h. (Change in course title and description).

COUNS 7031. *Clinical Psychopathology & Treatment*: Counseling theories of abnormal behavior and mental disorders throughout the total life cycle. Included will be specific personality theories and examinations of empirically-derived treatments. 3 s.h. Prereq. COUNS 6962 (Change in course prerequisite)

ECEGR 6901. **Control Systems I*. Fundamental concepts in linear system theory; matrix algebra, linear vector spaces, linear operators. Input-output and state-space models for continuous-time systems; canonical forms. Solutions of state space equations. Characteristics of linear systems; stability; controllability and observability. State variable feedback, introduction to state estimation. 3 s.h. (Change in course description)

ENST 6920. *Environmental Compliance*. Regulatory compliance concerning operations of environmental and health and safety departments. RCRA permitting (NPDES and air emissions), landfilling, Right-To-Know, waste generation, storage, shipping (manifests and placarding), disposal of wastes, MSDS, OSHA regulations, safe work practices, hiring consultants (technical and legal), writing requests for proposals, and documenting and report writing. Prereq: ENST 5860, 6900, or equivalent. 3 s.h. (Change in prerequisite)

FIN 6900. *Financial Accounting and Finance for Decision Making*. A survey of the fundamental concepts of financial accounting employed by general managers. Additionally, a survey of the concepts, principles, and practices of financial management used by general managers and the links between the two types of information. Prereq: Permit required. 4 s.h. (Change in prerequisite).

MGT 6900. *The Foundation of Management*. A study of the fundamental concepts and functions of management. Each functional area is analyzed and the interrelationship of the functions emphasized. Topics such as organization design, authority power relationships, control systems, group behavior, participative management, and span of control will be covered. Prereq: Permit required. 2 s.h. (Change in prerequisite).

MGT 6965. *Strategic Management and Leadership*. The correlation of theory and practice in the development of business policy. Emphasis on the problems of executive management, decision making, and administrative action. Prereq: 3.0 MBA GPA; ACCT 6902, FIN 6921, MKTG 6942, MGT 6921, MGT 6961, BUS 6920 (BUS 6920 may be taken concurrently with MGT 6965). Must be taken concurrently with MGT 6967. 3 s.h. (Change in prerequisite).

MKTG 6900. *Foundations of Marketing*. A basic examination of marketing as a business process by which products are matched with markets and through which transfers of ownership are affected. Prereq: Permit required. 2 s.h. (Change in prerequisite).

NURSG 7017. School Nurse Role Practicum. Application of concepts, theories, and research from NURSG 7016 in pre-k, k-12 school settings to be taken concurrently with NURSG 7016. Prereq NURSG 7014, 7015 or enrollment in school nurse licensure program. 1-5 s.h. (Change in course hours)

SPED 6981. *Seminar in Special Education*. This course details current issues in the field of special education involving research, pedagogy, methodologies, and application. Emphasis is on the intervention and remediation of

receptive/expressive language dysfunctions as well as other issues related to children and youth with disabilities. 3 s.h. (Change in course title and description)

SPED 6982. *Educational Assessment in Gifted and Special Education*. The course focuses on the educational assessment process as it applies to students with exceptionalities. Topics include a review of state and federal regulations, data collection techniques including both formal and informal methods, appropriate test preparation and interpretations, design of identification and placement procedures. 3 s.h. (Change in course description)

SPED 6984. *Major Concepts and Program Design for Students in Special Education*. Major concepts, program development, and program evaluation involving youth with special needs are a part of this course. Programs related to the transition process will be studied and reviewed. 3 s.h. (Change in course description and hours)

SPED 6985. *Alternative Delivery Services for Children in Special Education*. Designing and organizing programs for children receiving special education services in inclusive as well as other settings. Collaboration and consultation strategies for both special education and general education teachers are emphasized. 3 s.h. (Change in course description)

SPED 6986. *Severe Behavior Disorders*. A comprehensive analysis of programs and the description of the delivery of services to a wide range of seriously emotionally disturbed children and youth. 3 s.h. (Change in course description)

Undergraduate Courses Approved for Swing Credit

ART 5850. *Topics in Painting and Drawing*. Selected topics in advanced painting and drawing. Specific content varies by semester and includes Landscape and Interiors; Portraiture; and Personal Narrative. May be repeated with a different topic for a total of three times. Prereq: Art 2650 or portfolio presentation and permission of instructor. 3 s.h.

ART 5860. *Topics in Design*. Selected topics in graphic design, including typography, layout and computer applications. Specific topics vary so students may repeat the course for a total of three times with different topics. Prereq: Permission of instructor and portfolio. 3 s.h.

ART 5873. *Topics in Advanced Photography*. Selected technical and aesthetic photographic topics using a variety of approaches for fine art applications. May be repeated with a different topic for a total of three times. Prereq: Portfolio review and permission of instructor. 3 s.h.

CEEGR 5849. *Structural Analysis 2*. Analysis of statically indeterminate beams, trusses, bents, and multistory frames, utilizing concepts of strain energy, virtual work, slope-deflection, and moment distribution. Introduction to matrix methods of analysis using force and displacement methods. 3 s.h. Prereq: CEEGR 3749

CRJUS 5814. *Forensic Science and the Criminal Justice System*. Review of the impact of forensic science on the criminal justice system; discussion of future applications, constitutional considerations, and the significance of physical evidence. Emphasis on management responsibilities with respect to the criminalistics laboratory. Prereq: CRJUS 3714 and CRJUS 3714L. 3 s.h.

ECEGR *5830. *Digital Signal Processing*. Discrete time signals and systems; discrete, fast, and inverse Fourier transforms. Digital filter analysis and design, digital signal processing applications. Two hours lecture, three hours laboratory. Prereq: ECEGR 3711 and either ECEGR 3709 or ECEGR 3732. 3 s.h.

ECEGR *5835. *Computer Architecture with VHDL*. Use of hardware description languages to design computer components and systems. Arithmetic and logic units, control units, VHDL models for memories and busses, interfacing, transfer design. Survey of modern computer systems. Prereq: ECEGR 3732. 4 s.h.

ENST 5800. *Environmental Impact Assessment*. Analysis of the potential environmental effects resulting from the construction of buildings, highways, parking lots, mines, reservoirs, and waste disposal facilities. Standard

procedures are taught for evaluating and reporting the environmental impact of these activities. Prereq: ENST 4860 and senior standing or graduate standing. 3 s.h.

ENST *5810. *Environmental Safety*. The proper use of environmental monitoring instruments and personal protective gear. Participation in a series of realistic, hands-on simulation exercises that address a variety of waste clean-up situations. Class meets three hours per week. Prereq: ENST 2600 or equivalent experience, or graduate standing. 1 s.h.

ENST 5860. *Environmental Regulations*. An examination of federal and state regulations that relate to cleanup of abandoned waste sites, management of waste from current waste generators, development of new hazardous products and chemicals, safety and health issues, and control of pollution into air and water. Prereq: ENST 2600 or equivalent, or graduate standing. 3 s.h.

GEOG *5805. *Remote Sensing I*. Introduction to image analysis and interpretation from both airborne and satellite platforms. Themes include photogrammetry, digital data manipulation and multispectral imagery, as well as the interpretation of environmental features. Not available to students previously taking GEOG 3710. Prereq: GEOG 2610 or permission of the chair. 3 s.h.

GEOG *5806. *Remote Sensing II*. Extension of application of techniques introduced in Remote Sensing I. Themes examined are advanced theory of image classification, image processing and enhancement, and spatial analytical methods. Prereq: GEOG 4805. 3 s.h.

GEOG *5810. *Geographic Information Science I*. An introduction to Geographic Information Science investigating principles of the collection, storage, manipulation, retrieval, and visualization of spatial data in a computer environment. Not available to students previously taking GEOG 3732. Prereq: GEOG 2610 or permission of the chair. 3 s.h.

GEOG *5811. *Geographic Information Science II*. A continuation of GI Science I that focuses on theory and application of advanced techniques in spatial data handling, modeling, and spatial analysis. Not available to students previously taking GEOG 3765. Prereq: GEOG 5810. 3 s.h.

GEOG 5820. *Special Problems in Geography*. An in-depth study of a specific problem in geography. The problem is dependent upon the student's interest, competence, need, availability of faculty supervision and department equipment. Maximum credit 3 s.h.. Prereq: Permission of chair, 20 s.h. of geography or graduate status. 1–3 s.h.

ISEGR 5881. *Basic Principles of Manufacturing Competitiveness*. The role of engineers in promoting competitiveness. Discussion of new technologies used in modern manufacturing management including continuous improvement, waste elimination, just in time systems, lean production systems, setup time reduction, equipment maintenance/improvement, total quality management, and supply chain management. 3 s.h. Prereq: ISEGR 3723 or consent of the instructor.

Deleted Graduate Courses

CEEGR 6991, 6992. *Thesis*. 2+ (1 – 2) s.h.

ECEGR 6931. **Digital System Engineering 1*.

ECEGR 6932. **Digital Systems Engineering 2*.

MECH 6903. **Engineering Statistics*.

SCWK 7001. *Management Practice*.

SCWK 7005. *Program Evaluation*.

SCWK 7011. *Organizational Management and Community Change*.

Graduate Credit Dropped from a Swing Course

CRJUS 5826. *Forensic Science and the Criminal Justice System.*

HIST 5809. *Documentation and Interpretation of Historic Sites*

New Graduate Programs Approved

None.

Program Changes—Master's Program

Health Care Management Graduate Certificate Program – Program Action – Added CHHS 6953, Health Behavior, and CHHS 6958, Health Services Issues, as alternates to CHHS 6949, Community Health Practice, in the certificate program.

Master of Science – Chemistry - Additional requirement of submission of GRE general test scores for assistantship applicants

Master of Science in Education – Counseling – Change in Admission Requirements

Master of Science in Education – Counseling – Classroom Guidance -- Program Action – Change in Degree Requirements from 33 to 34 semester hours

Master of Science in Education – Counseling – Higher Education Student Services change in program name to Student Affairs Leadership and Practice, change in program description and degree requirements.

Master of Science in Education – Counseling – School Counseling - Program Action – Change in Degree Requirements from 51 to 52 semester hours

Master of Science in Education in Special Education – Program Action – Addition of new option – Intervention Specialist Licensure.

Master of Social Work—Administration concentration eliminated.