THE FACULTY SENATE

December 15, 1999

MEMORANDUM

TO: President Ray M. Bowen

SUBJECT: Approval of Graduate Curriculum Items

At its regular meeting on November 8, 1999, the Faculty Senate approved the following curriculum items from the Graduate Council and submits them for your approval. Attached is a copy of the material sent to our Senators regarding these items.

New Graduate Courses: CPSC 612, ELEN 627, ELEN 636, ELEN 675, GEOG 611, INFO 643, INFO 686, OCNG 652, OCNG 654, POSC 649, POSC 660, RPTS 646, SEFB 684, SPED 612, SPED 682, STAT 643, STAT 644. (FS.17.68)

Changes in Courses: VTMI 662, VTMI 649, VTMI 650, POSC 649, POSC 660, SPED 610 to SEFB 610, EDTC 660, INFO 640, SPED 618, EDTC 662, EDTC 608, EDTC 651, EDTC 645, INFO 638, INFO 628, INFO 631, INFO 637, INFO 669, MATH 602, MATH 601. (FS.17.69)

Thank you for your time and consideration. Please inform me of your action on these recommendations.

Thomas E. Wehrly
Speaker, 1999-2000

Attachment

cc: Dr. Ronald G. Douglas, Executive Vice President & Provost
Dr. Janis P. Stout, Dean of Faculties & Associate Provost
Dr. J. Rick Giardino, Chair, Graduate Council
Ms. Linda F. Lacey, Director of Academic Support Services

Approved:

Ray M. Bowen, President

Date 1/7/2000
I. Approved requests for new graduate courses as follows:

CPSC 612. Applied Networks and Distributed Processing. (3-0). Credit 3. Fundamentals, including network design and protocol analysis, in the context of computer communications; the course mixes fundamentals with both programming and pragmatic views of engineering issues; it includes network architecture as well as principles of network engineering; focus is on applying principles of layered architecture to analyzing real networks’ there will be lab exercises, focused on protocol understanding and programming; knowledge of Unix and C programming is helpful, but not required. Prerequisite: Graduate classification.


ELEN 636. Phased Arrays. (3-0). Credit 3. Theory and application of phased array antennas, radiators and sensors; spatial and spectral domain analysis of phased arrays including element-by-element, infinite array and Fourier methods; applications will include phased arrays, adaptive arrays, and synthesis array antennas, for use in radar, imaging an biomedical treatment and diagnosis. Prerequisite: ELEN 322 or equivalent.

ELEN 675. Integrated Optoelectronics. (3-0). Credit 3. Light propagation and interactions in anisotropic media; electrooptic and acoustooptic effects; passive and active guided-wave devices; fabrication and characterization. Prerequisite: ELEN 464 or equivalent.

GEOG 611. Geographical Research Design. (3-0). Credit 3. Methods, techniques, and conceptual models for the conception, design, planning, and conduct of geographical research. Prerequisite: Graduate classification in geography or approval of instructor.

INFO 643. Knowledge Management. (3-0). Credit 3. Covers theory of what is knowledge, how is it generated and transferred in organizations. Topics addressed include knowledge skills and roles, technologies used for knowledge management and practical applications. Prerequisite: Graduate classification.

INFO 686. Theory and Research in Management Information Systems. (3-0). Credit 3. Theory, applications, and human and organizational issues of Management Information Systems (MIS); current academic research into the analysis, design, and implementation of computer information systems. Classification 6 students may not enroll in this course. Prerequisite: Ph.D. classification and approval of instructor.

OCNG 652. Sedimentary Biogeochemistry. (3-2). Credit 4. Focus on benthic processes occurring near the sediment-water interface of marine sediments; interdisciplinary approach in examining complex interrelationships among organisms, pore waters, and sedimentary minerals in
different marine environments; laboratory methods taught and applied to field case studies in different marine environments. Prerequisite: OCNG 620 and OCNG 640 or approval of instructor.

**OCNG 654. Plankton Ecology. (2-2) Credit 3.** Elective course, overview of phytoplankton and zooplankton taxonomy; physiology' ecology' sampling design' current methods of investigation. Prerequisite: OCNG 620.

**POSC 649. Immunology. (3-0). Credit 3.** Cellular basis of the immune response; relationships between inflammation and acquired immunity, MHC and cell activation; the role of cytokines in immunoregulation and hypersensitivity, vaccines, and the mechanism of immunity to viruses, bacteria and parasites. Prerequisite: VTPB 409 or equivalent. Cross-listed with VTMI 649.

**POSC 660. Experimental Immunology. (3-3). Credit 4.** Familiarization, development and integration of techniques into experimental design of immunologic investigation; virus and protein purification, immunofluorescence, agar-gel diffusion, immunoelectrophoresis, germ-free animal techniques and specialized serologic tests. Prerequisite: BICH 410 or equivalent; 8 hours microbiology. Cross-listed with VTMI 650.

**RPTS 646. Heritage Tourism. (3-0). Credit 3.** This course comprises a transdisciplinary examination of contemporary research and practice in heritage tourism and public culture; students will be encouraged to deploy a variety of disciplinary outlooks to explore the representation of peoples, places, and pasts in a range of settings from the indigenous/sacred to the postindustrial/post colonial.

**SEFB 684. Internship in Special Education. (0-16). Variable credit 1-4.** University-directed experience in a professional employment setting; full-time teaching and responsibility in a classroom with students with disabilities. Prerequisite: Graduate classification. May be taken 4 times.

**SPED 612. Special Education Law. (3-0). Credit 3.** Legal development of the discipline of special education; current requirements for providing free and appropriate education to students with disabilities; assessment and performance of research with legal information. Prerequisite: Graduate classification.

**SPED 682. Seminar in Special Education. (0-1). Credit 1.** Knowledge, skills, and attitudes in special education. Specific topics are announced for each seminar offered. May be taken more than once, but not to exceed 6 hours of credit. Prerequisite: Graduate classification. May be taken 6 times.

**STAT 643. Biostatistics I. (3-0). Credit 3.** Bio-assay for quantitative and quantal responses: statistical analysis of contingency, including effect estimates, matched samples and misclassification. Prerequisite: STAT 602, STAT 642.

**STAT 644. Biostatistics II. (3-0). Credit 3.** Generalized linear models; survival analysis with emphasis on nonparametric models and methods. Prerequisite: STAT 643 or approval of instructor.
II. Approved requests for graduate course changes as follows:

Course contact hour change:

VTMI 662

from: (3-0). Credit 3.
to: (5-0). Credit 5.

Course cross-listing change:

VTMI 649

from: none
to: POSC 649

VTMI 650

from: none
to: POSC 660

POSC 649

from: none
to: VTMI 649

POSC 660

from: none
to: VTMI 660

Course number change

SPED 610

from: SPED 610
to: SEFB 610
Course title and description change

EDTC 660

from: Interactive Video/Multimedia Production and Utilization. (3-0). Credit 3. Survey of principles of interactive video and multimedia design/production; focus on practical applications of media (video, digitized video, audio) production techniques and instruction control programs using various authoring software; produce materials for interactive instructional programs involving CD-ROM video and audio, MPEG and Quick Time movies, video tape and video discs.

to: Principles and techniques of interactive video/multimedia design and production; practical applications of media (video, digitized video and audio) production techniques and instructional control programs utilizing authoring software; produce materials for interactive instructional programs involving features such as: CD-ROM video and audio, simulations, interactive digital movies, web-based delivery, etc.

INFO 640

from: Electronic Commerce. Survey of concepts of electronic commerce including technical, organizational, societal and legal issues; relevance to modern business enterprises. Classification 6 students may not enroll in this course.

to: E-Business. Survey of concepts of electronic business including technical, organizational, societal and legal issues; relevance to modern business enterprises. Classification 6 students may not enroll in this course.

Course description change

SPED 618

from: Effective management of challenging behavior problems in the classroom using proactive classroom strategies, effective instruction and planned behavior interventions; discussion and application of methods for observing, assessing and analyzing challenging behaviors; includes a 20-hour field-based practicum.

to: Field-based course related to effective management of challenging behavior problems in the classroom using proactive classroom strategies, effective instruction and planned behavior interventions; discussion and applications of methods for observing, assessing and analyzing challenging behaviors.
EDTC 662

from: Use of computers for application in a variety of educational and research settings; activities will include student/subject monitoring, hardware use and design, automatic data collection; techniques of storage, retrieval, transmission and analysis. Projects will relate to student's major area of study.

to: Application of computers and developmental software for use in a variety of educational settings; topics include: personal productivity utilities, web-based data collection, performance monitoring, and automatic data collection; projects includes techniques of storage, retrieval, transmission, analysis, reporting and web-based publication of research; projects are applied to students' area of study.

Course description and prerequisite change

EDTC 608

from: Communication and learning theories related to distance learning and distance education; application of effective and efficient instructional methodologies to school settings via multiple distance education technologies and techniques. Prerequisite: Graduate classification.

to: Communication theory, learning theories, and systems theory related to distance learning; application of effective and efficient instructional methodologies too educational / instructional settings via multiple distance education technologies and techniques.

EDTC 651

from: Design of computer delivered instruction basic applications of task analysis, learning theory and programming principles to frame construction and sequencing; relevant computer languages. Preparation of linear and non-linear CAI programs.

to: Principles of computer based instructional materials and practice; focus on the issues and techniques of instructional materials development in relation to the structure of the content, learner characteristics, learner/program control, performance monitoring, and the instructional navigation characteristics; projects include preparation of computer-based resources for direct of web-based delivery. Prerequisite: EDTC 645 or approval of instructor.
EDTC 645

from: Familiarization and overview of educational uses of computers; selection, evaluation and classroom integration of instructional software (drill and practice, tutorial, gaming and simulation), educational applications of computer tools for teachers and students (word processing, databases, etc.); educational computer programming principles and issues; introduction to emerging technologies, demonstration/hands-on format. Prerequisite: Graduate classification.

to: Introduction to the integration of computers, telecommunications, and related technologies into educational and instructional practice; resources for personal productivity and development/delivery of instructional materials; applications for both educators and students (word processing, databases, etc.); projects include hands-on development of HyperText, MultiMedia, and Internet (Web-based) resources in participant’s own area of study.

Course title and prerequisite change

INFO 638

from: Information Systems in Manufacturing. Prerequisite: INFO 697 or 612, and INFO 614 or 660, or equivalent.

to: Information Systems in Supply Chain Management. Prerequisite: INFO 614 or 660, or equivalent.

Course title, description and prerequisite change

INFO 628

from: Information Management. Information processing and management involving applications and user orientation in a business environment using commercially available information management packages. Prerequisite: INFO 316 or equivalent and INFO 620.

to: Business Database Systems. Information processing and management involving applications and user orientation in a business environment using commercially available database management systems. Prerequisite: Knowledge of one programming language.

INFO 631

from: Advanced Management Issues of System Analysis and Design. Concepts of planning, developing, managing and implementing very large software projects; management philosophy, including: understanding software development and implementation process with or without reusability; controlling the process by measuring multiple aspects of this process. Prerequisite: INFO 628 or equivalent, or approval of instructor.
Advanced Systems Analysis and Design. Concepts of planning, developing, managing and implementing very large software projects; management philosophy, including understanding software development and implementation process with or without reusability; controlling the process by measuring multiple aspects of this process. Prerequisite: INFO 620 or 628 or equivalent, of approval of instructor.

INFO 637

Expert Systems in Business. Concepts of artificial intelligence emphasizing methods useful to utilizing AI based business systems; expert systems and their potential relevance to managerial decision support; successful applications of AI in business. Classification 6 students may not enroll in this course. Prerequisite: INFO 318 or equivalent or approval of instructor.

to:

Data Warehousing. Provides an understanding of the process by which a data warehouse system is designed and developed along with the underlying concepts and software systems. The course includes OLAP models and their differences with standard OLTP models. Prerequisite: INFO 628 or approval of instructor.

INFO 669

from:

Manufacturing Seminar. Integration of current manufacturing issues; presentation and critical review of projects from industry internship in manufacturing. Classification 6 students may not enroll in this course. Prerequisite: Manufacturing internship and approval of instructor.

to:

Enterprise Resource Planning. Concepts and applications in ERP from an Operations Management perspective. This includes the activities of an organization from acquisition of raw materials to delivery of finished products.

Course title and credit/contact hours change

MATH 602

from:

Higher Mathematics for Engineers and Physicists. (4-0). Credit 4.

to:

Methods of Applications of Partial Differential Equations. (3-0). Credit 3.

MATH 601

from:

Higher Mathematics for Engineers and Physicists. (4-0). Credit 4.

to:

Methods of Applied Mathematics I. (3-0). Credit 3.