I. Approved requests for new graduate courses follows:

**AGRO 619. Molecular Methods for Microbial Characterization. (2-2). Credit 3.** Underlying principles of molecular methods for microbial detection and characterization in natural and man-made ecosystems; emphasis on methods application and data interpretation; emphasis on microbial pathogens and indicator organisms in foods and environment; laboratory covers select protocols. Prerequisite: POSC 429/FSTC 326/AGRI 405/approval of instructor. Cross-listed with FSTC 619 and POSC 619.

**ANTH 684. Anthropology Internship. (9-0). Credit 9.** Anthropology Internship provides graduate students with the opportunity to put the anthropology they have learned in the classroom into practice. Internships may be used to gain practical experience in a variety of settings including: local, state, or federal agencies; museums; non-profit organizations; non-governmental organizations; and private firms. Prerequisite: Completion of ANTH 601/602/604 or 602/615/616; approval of committee chair.

**BAEN 610. Spatial Technology for Site-Specific Crop Management. (2-3). Credit 3.** Techniques and technologies of precision crop management with emphasis on commercial practices; topics include global positioning system, mapping software, variable rate technologies and decision support systems. Prerequisite: AGRO 301; graduate classification.

**BAEN 616. Engineering Signal Analysis and Processing of Remotely Sensed Images. (2-2). Credit 3.** Engineering principles of digital signal analysis; multispectral remotely sensed images; image classification, feature extraction, and interpretation of data from agricultural, biological and environmental systems; digital images from both satellite and airborne platforms. Prerequisite: MATH 601, AGEN 615 or approval of instructor, graduate classification.

**BAEN 625. Advances in Food Process Engineering. (3-0). Credit 3.** Application of engineering fundamentals to the design of novel/advanced food processing systems including food irradiation, advances in thermal process, food freezing, food dehydration. Prerequisite: graduate classification.

**BAEN 669. Water Quality Engineering. (3-0). Credit 3.** Nonpoint source pollution processes including transport mechanisms and contaminant fate; design of best management practices for abating nonpoint source pollution. Prerequisite: ENGR 214, AGRO 301, AGEN 350 or equivalent, graduate classification.

**BAEN 670. Air Pollution Engineering. (3-0). Credit 3.** This course will address current topics in air pollution engineering including design and operation of air pollution abatement systems (cyclone, bag filters and scrubbers), emission factors, dispersion modeling,
permitting, odor sensing and control, EPA/State Air Pollution Regulatory Agency (SAPRA), TSP, PM10, and PM2.5. Prerequisite: MEEN 328, MEEN 344, AGEN/MEEN 477, or approval of instructor.

BAEN 673. Modeling Small Watersheds. (3-0). Credit 3. Transport of water and chemicals in small agricultural watersheds, simulation using hydrologic models coupled with geographical information systems (GIS); impact of land use on the quality of surface water and groundwater evaluated. Prerequisite: Basic Hydrology course.

MICR 606. Microbial Genetics. (3-0). Credit 3. The goal is to provide a basic understanding of microbial genetic systems, and how genetic analyses can be used to investigate fundamental biological processes in microbes. Prerequisite: approval of instructor.

BMEN 605. Virtual Instrumentation Design for Medical Systems. (2-3). Credit 3. Design of medical systems using graphics programming language of LabVIEW including the designing and programming of three virtual systems as follows: cardiac monitor, electromyogram system for biomechanics, and sleep stage analyses for electroencephalograms. Prerequisite: graduate classification.

BMEN 640. Design of Medical Devices. (3-0). Credit 3. Overview of the multiple issues in managing the design of a marketable medical device, including the design process from clinical problem definition through prototype and clinical testing to market readiness; includes FDA pre- and post-market regulation, human factors and system safety considerations, and medical product liability. Prerequisite: graduate classification in engineering.

BMEN 660. Vascular Mechanics. (3-0). Credit 3. Application in continuum mechanics to the study of the heart arteries; on the measurement and quantification of material properties, and the calculation of vascular stresses; analysis of several cardiovascular devices to reinforce the need for careful analysis in the device design. Prerequisite: BMEN 302, 421, or equivalents and graduate classification.


BPSY 613. Biliteracy for Hispanic Bilingual Students. (3-0). Credit 3. Socio-linguistic characteristics of second language learners acquiring literacy skills; reading and literature instruction for 2nd language learners; reading and writing process across the curriculum for Hispanic second language. Prerequisite: Graduate classification.

BPSY 616. Bilingual and Dual Language Classroom for Hispanic Students. (3-0). Credit 3. Understanding of dual language programs, literacy instruction through Spanish, socio-linguistic perspectives on literacy competence and effective instructional practices. Prerequisite: Graduate classification.
EDAD 650. Professional Development in Higher Education. (3-0). Credit 3. An introduction to organizational, faculty, and instructional development in higher education, with an emphasis on research and theoretical foundations and major issues connected with teaching and learning in higher education. Prerequisite: graduate classification.

ELEN 648. Principles of Magnetic Resonance Imaging. (3-0). Credit 3. Introduction to the theory and design of magnetic resonance imaging systems; fundamental physical and mathematical introduction to image acquisition and reconstruction using magnetic resonance; overview of imaging system design, including magnets, imaging gradients, and radio-frequency systems, contrast mechanisms, resolution. Prerequisite: ELEN 322 or ELEN 314 or approval of instructor.

ELEN 699. Advanced Analog Circuit Design Techniques. (3-2). Credit 4. Design of low voltage analog circuits; practical issues for different design trends are introduced, emphasis is placed on small systems; trade-offs and testing issues. Prerequisite: ELEN 474 or approval of instructor.

EPSY 610. Hispanic Bilingual Assessment and Monitoring Students. (3-0). Credit 3. Assessing language ability; language assessment; evaluating and scoring different types of assessments. Prerequisite: Graduate Classification. Cross-listed with EDCI 610.

EPSY 611. Dual Language Programs Methodologies. (3-0). Credit 3. Use of theory and effective teaching practice in promoting students’ development of strong social and academic skills; relationship of culture to language. Prerequisite: Graduate classification. Cross-listed with EDCI 611.

EPSY 612. Content Area Instruction for Hispanic Bilingual Programs. (3-0). Credit 3. Theories and approaches for integrating English as second language; learning strategies on how plan, procedures and units engage language teachers, students and learning environments. Prerequisite: Graduate classification. Cross-listed with EDCI 612.

FRSC 620. Advances and Issues in Forest Science. (2-0). Credit 2. Introduce the social and scientific context for forestry; develop an understanding of current social, economic and environmental issues confronting forested ecosystems and consider implications for renewable natural resource management, research and policy. Prerequisite: none.

INFO 615. Communications Networks. (3-0). Credit 3. Review of typical telecommunications networks (public and private); types of equipment and architectures used; transmission techniques. Prerequisite: graduate classification.

INFO 625. Telecommunications Management. (3-0). Credit 3. Evaluation of different tariffs and services offered by local and long-distance carriers, use of software and data bases, bypass techniques and issues, procurement of telecom equipment, contract issues, international circuits. Prerequisite: graduate classification.


INFO 665. International Telecommunications. (3-0). Credit 3. International telecommunications management, policy, and technology issues in planning and operating corporate voice, data and image networks worldwide. Prerequisite: INFO/ENTC 615 or INFO 634 & INFO/ENTC 625.


VMID 686. Scientific Ethics. (1-0). Credit 1. Ethical issues of research and methods for resolution of such issues. An overview of ethical issues encountered by scientists in the conduct and dissemination of their research, in their pursuit of resources, in their interactions with the press and the broader public and resulting from the extension and technological application of their findings. Prerequisite: Graduate student classification.

II. Approved requests for graduate course changes as follows:

Change in title, description, contact hours, credit hours and prerequisite:

VTMI 654

from: Tissue Culture Techniques (1-9). Credit 4. Tissue culture techniques particularly in application to virus isolation; principles of cell, organ and explant culture in vitro. Prerequisite: Approval of instructor.
to: **Cell Culture Techniques. (1-6). Credit 3.** Cell culture is a basic technique in biotechnology and life science research. Introduces the student to the theory and practice of cell culture and provides illustrations of its applications. This course teaches student to maintain a cell culture unit and culture cell lines, how to derive new cell cultures from animal tissues, characterize cultured cells, optimize in vitro conditions, and introduce genetic changes into cultured cells.

**Change in title, description and prerequisite:**

**WFSC 622**

from: **Behavioral Ecology of Vertebrates.** Behavior of vertebrates in response to ecological factors, use of space and other resources including habitat selection, foraging strategies, mating systems and the overall organization of reproduction emphasized. Prerequisite: WFSC 403 or equivalent.

to: **Behavioral Ecology.** Integration of animal behavior with ecological and evolutionary principles includes mating, predation, foraging ecology, social behavior, game theory and behavioral genetics; emphasis on quantification of behavior and strategy modeling. Prerequisite: graduate classification; undergraduate ecology course.

**BAEN 662**

from: **Statistical Modeling and Simulation of Biological Systems.** Statistical aspects of simulation modeling applied to problem in agriculture and forestry; probability distribution fitting to complete and censored data; generating independent and correlated random deviates; statistical analysis of simulation output; variance reduction techniques. Prerequisite: STAT 601, INEN 625 or equivalent.

to: **Statistical Methods in Biological and Agricultural Engineering.** Statistical methods applied to problems in biological and agricultural engineering; parameter estimation; probability distribution fitting; time-series analysis; random variable generation; uncertainty analysis. Prerequisite: graduate classification.

**INFO 631**

from: **Advanced 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 620.

to: **Business Component Design and Development.** Analysis and design of large application systems using component technologies. Code and design reuse are emphasized. Issues of metadata, software repositories, DCOM and CORBA are also discussed. Prerequisite: Graduate classification in Business and INFO 628 or Instructor approval.
INFO 638

from: Information Systems in Supply Chain Management. Integrating information systems technology in manufacturing environments; role of information systems in supporting manufacturing decision-making processes, manufacturing imposed issues in information processing, emerging information systems technology affecting manufacturing operations. Classification 6 students may not enroll in this course. Prerequisite: INFO 614 or 660, or equivalents.

to: Information Technology in Supply Chain Management. Information technology systems for operations and supply chain integration; role of information systems in supporting service systems, product design, factory integration, enterprise planning, and supply chain integration. Prerequisite: INFO 614 or 660 or equivalent.

Change in description, prerequisite, contact and credit hours:

SCOM 685

from: Credit 1 to 3 each semester. Directed studies in specific problem areas in speech communication.

to: Credit 1 to 6 each semester. Directed studies in specific problem areas in speech communication. Student may take up to two sections of directed studies in speech communication in the same semester, with a maximum of 6 credits.

Change in title:

FRSC 608


Change contact and credit hours:

FRSC 606

from: (3-0). Credit 3.

to: (2-0). Credit 2.

Change cross-listing (these courses were cross-listed and signed off on the EPSY forms):

EDCI 610

from: 

to: EPSY 610.
EDCI 611
from:
to: EPSY 611.

EDCI 612
from:
to: EPSY 612.

Change prerequisite:

LDEV 661
from: Graduate classification

to: Graduate classification; must be taken concurrently with LDEV 671

LDEV 671
from: Graduate classification

to: Graduate classification’ must be taken concurrently with LDEV 661