

Graduate Council Report

October 4, 2012

New Course Requests

BAEN 617. Fundamentals of Nanoscale Biological Engineering. (3-0). Credit 3. The course will primarily cover nanostructures, nanofabrication methods, instrumentation and applications pertinent to Biological, Food and Bioenergy systems and will provide students an opportunity to identify and utilize key tools available for fabricating, manipulating and analysis of nanostructures used in Biological Engineering applications. Prerequisite(s): Graduate classification in engineering.

BMEN 672. Introduction to Diagnostic Radiology Physics. (2-3). Credit 3. This course presents the concepts of radiation physics used in diagnostic radiology by providing an introduction to the theory behind the different imaging modalities as it relates to mammography, planar X-ray imaging, computed tomography (CT), single photon emission tomography (SPECT), and positron emission tomography (PET). Prerequisite(s): NUEN 611, NUEN 613 or approval from academic advisor. Cross-listed with NUEN 672.

ECEN 751. Computational Methods for Integrated System Design. (3-0). Credit 3. Integrated circuit design in a computational standpoint; VLSI circuit simulation, interconnect modeling and analysis, design and analysis of IC subsystems, parallel computing techniques for complex system design. Prerequisite(s): ECEN 454, ECEN 474 or equivalent.

ECEN 752. Advances in VLSI Circuit Design. (3-0). Credit 3. Gate and wire delays, CMOS transistors, DC and AC characteristics, VLSI fabrication, Static, Dynamic, Pass-gate and PLA implementation styles, SOI and GaAs technology, DRAM, SRAM and FLASH memory design, leakage and dynamic power, sub-threshold computation, clocking, transmission lines, packaging, off-chip IO, process variation and compensation, radiation tolerance. Prerequisite(s): Graduate classification or Instructor approval.

LAND 635. Concepts in Ecological Planning and Design. (3-0). Credit 3. Reviews selected ecological concepts and explores integration into ecological/landscape planning, design using a historical perspective; historical and contemporary approach to provide and in-depth understanding of how they can better mediate between human actions and natural process. Prerequisite(s): Graduate standing. Cross-listed with PLAN 635.

NUEN 672. Introduction to Diagnostic Radiology Physics. (2-3). Credit 3. This course presents the concepts of radiation physics used in diagnostic radiology by providing and introduction to the theory behind the different imaging modalities as it relates to mammography, planar X-ray imaging, computed tomography (CT), single photon emission tomography (SPECT), and positron emission tomography (PET). Prerequisite(s): NUEN 611, NUEN 613 or approval from academic advisor. Cross-listed with BMEN 672.

PLAN 635. Concepts in Ecological Planning and Design. (3-0). Credit 3. Reviews selected ecological concepts and explores integration into ecological/landscape planning, design using a historical perspective; historical and contemporary approach to provide and in-depth understanding of how they

can better mediate between human actions and natural process. Prerequisite(s): Graduate standing. Cross-listed with LAND 635.

RPTS 655. Applied Biodiversity Science I. (3-0). Credit 3. Students will study in the areas of Conservation genetics, metapopulations, landscape ecology, and ecosystem management. Prerequisite(s): Graduate classification. Cross-listed with WFSC 655.

WFSC 655. Applied Biodiversity Science. (3-0). Credit 3. Students will study in the areas of Conservation genetics, metapopulations, landscape ecology, and ecosystem management. Prerequisite(s): Graduate classification. Cross-listed with RPTS 655.

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Course Change Requests

ESSM 651: Geographic Information Systems

Prerequisite(s):

FROM: GEOG 398 and RENR 444 or approval of instructor.

TO: None.

RPTS 666: Tourism and the Natural Environment

Title:

FROM: Tourism and the Natural Environment

TO: Parks, Tourism and the Natural and Cultural Environment

Prerequisite(s):

FROM: RPTS 606 or approval of instructor.

TO: RPTS 602 or approval of instructor.

Course Description:

FROM: Environmental and natural resource issues in tourism development and travel activity; philosophical issues in natural based- and eco-tourism; sustainable development and tourism; assessment of environmental impacts at macro and micro scales; integrating values into allocation, planning and management of tourism use of natural resources; the role of tourism in the stewardship of ecosystems.

TO: Analysis of natural and cultural resource management in the United States; emphasis on federal policy and the influence by political processes at the national, regional, and local levels; case studies to illustrate conceptual and legal frameworks in real world contexts, including the policy and politics of tourism and recreation, endangered species, contested history, and Native American traditions and sovereignty.

SCSC 654: Genome Analysis

Title:

FROM: Genome Analysis

TO: Analysis of Complex Genomes

Course Description:

FROM: Genome structure, organization and function of model organisms and higher eukaryotes; theory and methodology of genetic and physical mapping, comparative genomics, sequencing, sequence analysis and annotation; emphasis on understanding the function of complex genomes, genome-wide expression analysis, genetic and epigenetic mechanisms; X-inactivation, imprinting, gene silencing, transposons, genome duplication and evaluation.

TO: History and current status of genetic and molecular analysis of higher eukaryotic genomes; coverage of techniques for dissection of genomes into manageable parts; investigations in genetics, breeding and evolution; emphasis on quantitative inheritance, genetic mapping, physical mapping, map-based cloning, with examples drawn from a wide range of organisms.

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Special Consideration Item:

The Department of Marine Sciences at Texas A&M University at Galveston would like to offer a degree program that allows Ocean and Coastal Resources (OCRE) undergraduate majors to enter the graduate program for a Master of Marine Resources Management at the beginning of their fourth year, thus enabling them to receive their OCRE undergraduate degree (B.S.) and their Master of Marine Resources Management graduate degree in five years.