

Minutes of the University Curriculum Committee
August 7, 2008
217 Koldus

Members present: Robert Knight (Chair), College of Agriculture and Life Sciences; Tim Scott (Vice-Chair), College of Science; Lale Yurttas, Dwight Look College of Engineering; Norma Funkhouser, Medical Sciences Library.

Guests: Fidel Fernandez, Department of Biomedical Engineering; Richard Furuta, Department of Computer Science; Kelly Essler, Department of Electrical and Computer Engineering; Matt Whiteacre, Department of Engineering Technology and Industrial Distribution.

The University Curriculum Committee recommends approval of the following:

1. The minutes of the July 11, 2008 meeting.
2. New Courses

ASTR 109. Big Bang and Black Holes. (3-0). Credit 3. Designed to give an intuitive understanding of the Big Bang and Black Holes, without mathematics, and de-mystify them for the non-scientist. Cross-listed with PHYS 109.

BMEN 402. Biomedical Optics Laboratory. (2-3). Credit 3. Biomedical optics technology; basic engineering principles used in developing therapeutic and diagnostic devices; hands-on labs including optical monitoring, diagnostic and therapeutic experiments. Prerequisite: PHYS 208 or approval of instructor.

BMEN 426. Optical Biosensors. (3-0). Credit 3. Biosensing principles and detailed analysis of optical methods for transduction; fluorescence-based transduction; molecular recognition of targets; immobilization of sensing reagents; quantitative analysis of sensing systems; design and characterization of sensing assays and associated measurement systems; review of historical and current trends in optical biosensors. Prerequisite: Senior classification or approval of instructor.

BMEN 451. Cell Mechanobiology. (3-0). Credit 3. Focus on how mechanical forces influence cell behavior through physical and biochemical mechanisms; integration of engineering and cell biology to solve biomedical problems, which includes developing models for applying forces to cultured cells and tissues and measuring changes in cell biochemistry, structure, and function. Prerequisites: BMEN 282 and admitted to major degree sequence in biomedical engineering.

BMEN 483. Polymeric Biomaterial Synthesis. (3-0). Credit 3. Overview of polymer synthetic routes and key structure-property relationships with emphasis on the design of polymeric systems to achieve specific properties; tissue engineering and drug delivery applications will be used as model systems to explore the process of biomaterial design from synthesis to device evaluation. Prerequisite: BMEN 343 or approval of instructor.

BMEN 486. Biomedical Nanotechnology. (3-0). Credit 3. Nanotechnology applications in biomedicine; concepts of scale; unique properties at the nanoscale; biological interaction, transport, and biocompatibility of nanomaterials; current research and development of nanotechnology for medical applications, including sensors, diagnostic tools, drug delivery systems, therapeutic devices, and interactions of cells and biomolecules with nanostructured surfaces. Prerequisite: BMEN 343, senior classification or approval of instructor.

CPSC 222. Discrete Structures for Computing. (3-0). Credit 3. Provide mathematical foundations from discrete mathematics for analyzing computer algorithms, for both correctness and performance; introduction to models of computation, including finite state machines and Turing machines. Prerequisite: MATH 151. Cross-listed with ECEN 222.

ECEN 222. Discrete Structures for Computing. (3-0). Credit 3. Provide mathematical foundations from discrete mathematics for analyzing computer algorithms, for both correctness and performance; introduction to models of computation, including finite state machines and Turing machines. Prerequisite: MATH 151. Cross-listed with CPSC 222.

2. Withdrawal of Courses

CPSC 435. Structured Programming in Ada.

CPSC 437. Engineering Software Products.

3. Change in Courses

CPSC 221. Data Structures and Algorithms.

Prerequisites

From: CPSC 113 or 121; corequisite MATH 202.

To: CPSC 113 or 121; corequisite CPSC 222.

CPSC 411. Design and Analysis of Algorithms.

Prerequisites

From: CPSC 221, 315; MATH 302.

To: CPSC 221 and 315.

PHYS 109. Big Bang and Black Holes.

Course Description

From: Designed to give an intuitive understanding of the Big Bang and Black Holes, without mathematics, and de-mystify it for the non-scientist.

To: Designed to give an intuitive understanding of the Big Bang and Black Holes, without mathematics, and de-mystify them for the non-scientist.

Cross-listing

From: None

To: ASTR 109

Lab Hours, Credit Hours

From: (3-2). Credit 4.

To: (3-0). Credit 3.

4. Change in Curricula

Dwight Look College of Engineering

Interdepartmental Degree Program

B.S. in Computer Engineering

Computer Science Track

Electrical Engineering Track

Department of Computer Science

B.S. in Computer Science

5. Special Consideration

Dwight Look College of Engineering

Department of Computer Science

Minor in Computer Science – Requirement Changes

6. Other Business

- College of Liberal Arts – addition of elective courses to existing minor in Film Studies approved as informational item.
- Dr. Knight wants to encourage everyone to start using new course forms; both new syllabus requirements and new course forms are posted on web; January deadline for all courses to be in compliance with new syllabus requirements.
- Discussion on lab safety and what should be the requirement, if any, for new or change in courses with labs; would requirement need to come from Faculty Senate; Dr. Scott is chair of the university lab safety committee; Dr. Knight discussed a fieldwork safety plan he is presently developing; further discussion at next month's meeting.