CSM Senate Meeting

Date: Monday, December 19th, 2016
Time: 2:30pm - 4:00pm
Location: CSM Dean's Office Conference Room

Agenda:

1. Approval of the November 14, 2016 meeting minutes.
2. Announcements.
3. New business
   3a. New BIOL 3XX Advanced Human Anatomy and Human Physiology I.
       **Motion:** To pre-approve the new course of biology BIOL 3XX Advanced Human Anatomy and Human Physiology I.
       **Rationale:** To help students gain in-depth understanding of the structure and function of the human body and how it functions under both normal and disease states.
   3b. New BIOL 3XX Advanced Human Anatomy and Human Physiology I Lab.
       **Motion:** To pre-approve the new course of biology BIOL 3XX Advanced Human Anatomy and Human Physiology I Lab.
       **Rationale:** To help students gain a full understanding of how the human body functions under normal conditions by analyzing physiological data on themselves and classmates.
   3c. New undergraduate course CS 442 Cybersecurity in the Internet of Things.
       **Motion:** To pre-approve the new undergraduate course CS 442 Cybersecurity in the Internet of Things.
       **Rationale:** "Internet of Things" (IoT) is an emerging technology that is changing our world with its innovative products such as "smart home", "consumer wearable", and "autonomous vehicle". Cybersecurity is a critical design issue of the IoT system. This course is designed to equip our students with the necessary knowledge and skills to become IoT related professionals.
   3d. New graduate course CS 642 Cybersecurity in the Internet of Things.
       **Motion:** To pre-approve the new graduate course CS 642 Cybersecurity in the Internet of Things.
       **Rationale:** "Internet of Things" (IoT) is an emerging technology that is changing our world with its innovative products such as "smart home", "consumer wearable", and "autonomous vehicle". Cybersecurity is a critical design issue of the IoT system. This course is designed to equip our students with the necessary knowledge and skills to become IoT related professionals.
3e. New undergraduate course ENGIN 263 Engineering Thermodynamics.

**Motion:** To pre-approve the new undergraduate course ENGIN 263 Engineering Thermodynamics.

**Rationale:** This newly developed course enhances the currently offered Mechanical Engineering Two-Year Program by introducing thermodynamics from an engineering perspective at the sophomore level, as is typically done in four-year Mechanical Engineering Bachelor's Degree programs. UMB students in the ME Two-Year Program currently take thermodynamics in the Physics Department and thus learn the topics from the theoretical physics perspective instead of the more practical, application-driven mechanical engineering perspective that serves them better when they transfer to complete their ME degree at another institution. This new course is also available as a technical elective to Electrical and Computer Engineering students interested in this fundamental engineering science subject because the pre-req PHYSIC 114/182 is a required course in the EE and CE programs. In the future, this course will be a core sophomore-level course for the new Mechanical Engineering Bachelor's Degree Program.


**Motion:** To pre-approve the new undergraduate course ENGIN 362 Fluid Mechanics.

**Rationale:** This newly developed course enhances the currently offered Mechanical Engineering Two-Year Program by offering a junior-level core mechanical engineering course to advanced students. This new course is also available as a technical elective to Electrical and Computer Engineering students interested in this fundamental engineering science topic. One pre-req MATH 310 is also a required course in the EE program and the ENGIN 263 pre-req can be waived at the instructor's discretion. In the future, this course will be a core junior-level course for the new Mechanical Engineering Bachelor's Degree Program.

3g. New undergraduate course ENGIN 421 Radar Systems.

**Motion:** To pre-approve the new undergraduate course ENGIN 421 Radar Systems.

**Rationale:** The proposed course is an introduction to radar systems and signal processing. It will serve as part of the microwave/RF engineering subject area of the Electrical Engineering major. The subject matter covered in this course is applicable to remote sensing applications, among other areas.

3h. Revision of undergraduate course ENGIN 435 Antenna Design.

**Motion:** To pre-approve the revision of undergraduate course ENGIN 435 Antenna Design.

**Rationale:** Remove ENGIN 332 as a prerequisite in order to simplify the ENGIN electromagnetics sequence. ENGIN 435 material will review necessary material from 332 (wave propagation and radiation from current sources).

3i. New graduate course BIOL 697 Advanced Data Analysis for Biology.

**Motion:** To approve the new graduate course BIOL 697 Advanced Data Analysis for Biology.

**Rationale:** Currently the department lacks a course in advanced data analysis and modeling for the biological sciences.
3j. New graduate course BIOL 697 Epigenetics.

**Motion:** To approve the new graduate course BIOL 697 Epigenetics.

**Rationale:** In a broad sense, a number of research labs at UMB are interested in understanding how changes in the environment, whether they are inside or outside and organism, result in phenotypic changes within that organism. For example, 1) how does the urbanization of the habitat surrounding lizard species of lizard alter the behavior and body structure of that species, 2) how does cell-cell communication within an embryo result in the specification of specific cell types, and 3) how does tissue injury stimulate a regenerative response in amphibians? Although epigenetic mechanisms play an important role in all of these processes, there is currently no graduate level course that focuses on epigenetics in the context of developing systems. The goal of this course is to fill this critical niche in our graduate program, and broaden the knowledge base of our graduate students.

4. Other business
5. Adjourn