

Members present: Sarah Bednarz (Vice Chair), College of Geosciences; Robert Knight, College of Agriculture and Life Sciences; Rich Metters (for `Jon Jasperson), Mays Business School; Patricia Campbell, Baylor College of Dentistry; Prasad Enjeti, Dwight Look College of Engineering; Steve Oberhelman, College of Liberal Arts; Stephanie Graves, Texas A&M University Libraries; Jim Kracht (for Ann Kenimer), Undergraduate Studies; James Herman, College of Veterinary Medicine and Biomedical Sciences; John Bolch, Office of the Registrar; Jean Layne, Center for Teaching Excellence.

Guests: Fidel Fernandez, Department of Biomedical Engineering; Victor Ugaz, Department of Chemical Engineering; Terry Creasy and Patrick Shamberger, Department of Materials Science and Engineering; Louis Hodges and Jim Petrick, Department of Recreation, Park and Tourism Sciences; Bill Klemm, Department of Veterinary Integrative Biosciences.

The Undergraduate Curriculum Committee recommends approval of the following:

1. There were no minutes to approve. The June 2014 was held via e-vote.
2. New Courses

**ISEN 440. Systems Thinking. (3-0). Credit 3.** Systems thinking process, systems of systems and the fundamental considerations associated with the engineering of large-scale systems, or systems engineering including systems modeling, design and the system development process. Prerequisites: MATH 304 or approval of instructor; junior or senior classification.

**MSEN 201. Introduction to Materials Science. (3-0). Credit 3.** Processing, structure, properties and performance in materials; materials structure and defects over many orders of scale; mechanical, thermal, electrical, magnetic and optical properties. Prerequisites: CHEM 102 or CHEM 104 or CHEM 107; PHYS 218.

**MSEN 310. Structure of Materials. (3-0). Credit 3.** Symmetry, unit cell and the atomic structure of crystalline and non-crystalline materials; the bonding forces and energy for van der Waals, metallic, ionic and covalent crystals. Prerequisites: MSEN 201 or approval of instructor; junior or senior classification.

**MSEN 410. Materials Processing. (3-0). Credit 3.** Synthesis, properties and processing of technologically important inorganic materials (metals and ceramics); includes thermodynamics and kinetics of different materials processing methods, casting, deformation processing, heat treatments, powder processing and sintering, coating and thin films processing, etc. Prerequisites: MSEN 201 or approval of instructor; junior or senior classification.

**MSEN 420. Polymer Science. (3-0). Credit 3.** Polymer structure, processing, property characterization at the molecular, microscopic and macroscopic dimensional levels for thermosets, thermoplastics, elastomers, fibers and advanced non-particle filled composites and smart multi-performance structures. Prerequisites: MSEN 201 or MEEN 222 or AERO 213 or CHEN 313; junior or senior classification.

**MSEN 460. Electronic, Optical and Magnetic Properties of Materials. (3-0). Credit 3.** Origins of functional materials properties from their electronic and molecular structure; electron theory in solids; electronic transport and dielectric behavior; optical and magnetic properties; current applications of functional materials. Prerequisites: MSEN 201 or approval of instructor; junior or senior classification.

**NRSC 407. Core Ideas in Neuroscience. (1-0). Credit 1.** General overview of selected core ideas across the full spectrum of neuroscience. Prerequisite: Junior or senior classification; background in science courses recommended. Cross-listed with VIBS 407.

**RPTS 411. Cruise Tourism. (3-0). Credit 3.** Overview of cruise tourism; management of service sectors; understanding of cultural aspects of places traveled; cruise marketing/decision making; geography of cruising; youth programming; agri-tourism; identification of issues related to the economic, technological and political aspects of cruise tourism. Prerequisite: Junior or senior classification.

**VIBS 407. Core Ideas in Neuroscience. (1-0). Credit 1.** General overview of selected core ideas across the full spectrum of neuroscience. Prerequisite: Junior or senior classification; background in science courses recommended. Cross-listed with NRSC 407.

**VIBS 408. Neuroscience and Religion. (3-0). Credit 3.** Emphasis on the biology of the human mind in the context of religious implications. Prerequisites: Junior or senior classification; concurrent enrollment in NRSC 407 or VIBS 407.

### 3. Change in Courses

#### **CHEN 204. Elementary Chemical Engineering.**

Prerequisites

From: Admission to upper-level chemical engineering.

To: Admission to chemical engineering major or approval of instructor.

#### **CHEN 313. Chemical Engineering Materials.**

Prerequisites

From: CHEN 204, MATH 251 or registration therein, CHEN 205 or registration therein.

To: CHEN 204, MATH 251 or registration therein, CHEN 205 or registration therein; or approval of instructor

#### **CHEN 354. Chemical Engineering Thermodynamics II.**

Prerequisites

From: CHEN 205; CHEN 320 or registration therein; MATH 308.

To: CHEN 205; CHEN 320 or registration therein; MATH 308; or approval of instructor.

#### **CHEN 414. Chemical Engineering Laboratory I.**

Prerequisites

From: CHEN 304; CHEN 323 or registration therein with approval of instructor; CHEN 301.

To: CHEN 304; CHEN 323 or registration therein with approval of instructor; CHEN 301 or ENGL 210.

#### **CHEN 424. Chemical Engineering Mass Transfer Operations.**

Prerequisites

From: CHEN 323 or registration therein; CHEN 354.

To: CHEN 323 or registration therein; CHEN 354; or approval of instructor.

4. Change in Curriculum

**Dwight Look College of Engineering**  
Department of Biomedical Engineering  
BS in Biomedical Engineering

Artie McFerrin Department of Chemical Engineering  
BS in Chemical Engineering

5. Special Consideration

**College of Agriculture and Life Sciences**  
Department of Recreation, Park and Tourism Sciences  
Certificate in Tourism and Hospitality Management  
Request for a new certificate program

**Dwight Look College of Engineering**  
Department of Biomedical Engineering  
Minor in Biomedical Engineering  
Request for a new minor

Artie McFerrin Department of Chemical Engineering  
Minor in Chemical Engineering  
Request for a new minor

Department of Materials Science and Engineering  
Minor in Materials Science and Engineering  
Request for a new minor

6. Tabled Items

New Courses

ANSC 221, ANSC 418, ANSC 419, BESC 411, MATH 225 and PLPA 334 were tabled. There was no representative at the meeting and no updates were received that addressed member concerns.