

Minutes of the University Curriculum Committee
October 10, 2008
217 Koldus

Members present: Tim Scott (Vice-Chair), College of Science; Michael Murphy, College of Architecture; Jim Kracht, College of Education and Human Development; Lale Yurttas, Dwight Look College of Engineering; Roxanna Russell (for Sarah Bednarz), College of Geosciences; Pamela Matthews, College of Liberal Arts; George Fowler, Mays Business School; Norma Funkhouser, Medical Sciences Library; Bill McMullen, Texas A&M University at Galveston; Kristin Harper (for Martyn Gunn), Undergraduate Programs and Academic Services; James Herman, College of Veterinary Medicine and Biomedical Sciences; Joseph Fuller, Vice President for Student Affairs.

Guests: Salah Ayari, Arabic and Asian Languages; William Rogers, Department of Chemical Engineering; Roberto Farias, Department of Communication; Patrick Lynett, Bob Randall and Roger Smith, Department of Civil Engineering; David Vaught, Department of History; Won-jong Kim, Department of Mechanical Engineering; Chuck Kenerley, Department of Plant Pathology and Microbiology.

The University Curriculum Committee recommends approval of the following:

1. The minutes of the September 19, 2008 meeting.
2. New Courses

ARAB 301. Reading and Composition. (3-0). Credit 3. Advanced Arabic grammar and readings of average difficulty and of different genres, including literary and journalistic texts and other culturally-enriched materials in order to develop awareness of cultural products, perspectives, and practices found in the Arab world. Prerequisites: ARAB 202; junior or senior classification or approval of instructor.

BESC 367. U.S. Environmental Regulations. (3-0). Credit 3. Investigation of the legal infrastructure of the U.S. associated with regulating environmental impacts; examination of major U.S. environmental statutes associated with air and water quality, toxic substances, waste and hazardous substance release, energy and natural resources; review the relationship between U.S. policy and international environmental regulations. May be taken 2 times for credit. Prerequisites: BESC 201 and junior or senior classification.

CHIN 301. Reading and Composition. (3-0). Credit 3. Development of advanced proficiency in reading and writing through contact with various written and spoken styles of modern Chinese as reflected in newspaper reports, radio and TV broadcasts. Prerequisites: CHIN 202; junior or senior classification or approval of instructor.

MEEN 434. Dynamics and Modeling of Mechatronic System. (3-0). Credit 3. Mechatronic interactions in lumped-parameter and continuum systems; review of integral and differential electromagnetic laws, including motions; lumped elements and dynamic equations of motion; linear and nonlinear actuators and transducers; field transformation and moving media; electromagnetic force densities and stress tensors. Prerequisite: MEEN 364.

NUEN 265. Materials Science for Nuclear Energy Applications. (3-0). Credit 3. Materials science fundamentals with an emphasis on nuclear applications; topics will include bonding, crystal structures crystalline defects, mechanical properties and radiation effects in metal, ceramic and polymer materials. Prerequisites: CHEM 102, or 104 and 114, or CHEM 107; PHYS 218.

NUEN 465. Nuclear Materials Engineering. (3-0). Credit 3. Explore applications of materials science principles in nuclear energy systems; includes crystal structures and defects, metallurgy, and materials thermochemistry; emphasis on nuclear fuel performance, structural material changes, and waste materials; laboratory demonstrations on materials behavior. Prerequisites: NUEN 265, MEEN 222 or equivalent and NUEN 302.

PHYS 303. Advanced Mechanics II. (3-0). Credit 3. Classical mechanics of particles and rigid bodies with an emphasis on Lagrangian and Hamiltonian methods; applications to chaos, scattering, coupled oscillations, and continua, including sound in fluids; mechanical implications of special relativity; introduction to drag and turbulence in fluids; introduction to elasticity in solids; Euler buckling instability. Prerequisites: PHYS 302 and 332.

PHYS 331. Theoretical Methods for Physicists I. (3-0). Credit 3. Applications involving vectors; vector and additional methods for advanced electricity and magnetism; relationship and solutions of classical wave equation, heat equation, and Schrodinger equation; harmonic motion on finite or periodic lattice and in continuum; tensor and matrix notation in classical mechanics and electricity and magnetism. Prerequisites: MATH 221 or 251 or 253 and 308; PHYS 208, 218 and 221; restricted to physics majors and minors.

PHYS 332. Theoretical Methods for Physicists II. (3-0). Credit 3. Methods to solve the important equations of theoretical physics, emphasizing the effects of boundary conditions and quantization on their solutions and restricted to the essential physical symmetries associated with free space, spheres, cylinders, and rectangles; if time permits, introduction to symmetries in physics and to asymptotic methods. Prerequisites: PHYS 309 or 222, and 331; restricted to physics majors or minors.

SCSC 201. Great Plains Settlement and Farming. (3-0). Credit 3. American Indian hunting and farming; transformation by Manifest destiny, Homestead Act, railroads, Indian Wars, U.S. Army, crops and farm families; effects of World Wars, Great Depression, Dust Bowl, irrigation, fertilization, pest controls, precision farming.

3. Change in Courses

BIOL 405. Comparative Endocrinology.

Prerequisites

From: BIOL 319; WFSC 416 or BIOL 388 or approval of instructor.

To: BIOL 213 and CHEM 227; BIOL 320 or 388 strongly recommended.

BIOL 445. Biology of Viruses.

Course description

From: Introduction to the life cycles of structure, composition and viruses; their interaction with host cells; the mechanisms of pathogenicity on cellular transformation; the responses of the host to viral infection and vaccine applications; followed by an indepth study of the life cycles of the major classes of viruses and discussion of emerging viruses.

To: Structure, composition and life cycles of viruses; methods used to study viruses; their interaction with host cells; mechanisms of pathogenicity and cellular transformation; responses of the host to viral infection, and vaccine applications; in-depth study of the life cycles of the major classes of viruses and discussion of emerging viruses.

CVEN 336. Fluid Dynamics Laboratory.

Course prefix

From: CVEN 336.

To: OCEN 336.

HIST 308. History of Native Peoples in the U.S. South.

Course title

From: History of Native Peoples in the U.S. South.

To: History of American Indians in the U.S. South.

HIST 412. Soviet Union 1917-Present.

Course title

From: Soviet Union 1917-Present.

To: Soviet Union 1917-1991.

Course description

From: The Russian Revolution, consolidation of Bolshevik power; political and social evolution of the Soviet system from February 1917, through the Civil War, the power struggle among Lenin's successors, Stalin's industrial revolution, collectivization and terror, Khrushchev's de-Stalinization campaign, stagnation under Brezhnev, and Gorbachev's attempts at radical reform.

To: Political and social evaluation of the Soviet system; the Russian Revolution and consolidation of Bolshevik power; Civil War; power struggles among Lenin's successors; Stalin's industrial revolution, collectivization, and terror; Khrushchev's de-Stalinization campaign, stagnation under Brezhnev; Gorbachev's attempts at radical reform; the collapse of the Soviet Union.

LBAR 181. Freshman Honors Seminar in the Liberal Arts.

Course title

From: Freshman Honors Seminar in the Liberal Arts.

To: First-Year Seminar in the Liberal Arts.

Course description and prerequisites

From: Freshman seminar on interdisciplinary topics of interest in the humanities and social sciences with an introduction to honors study in the liberal arts. Must be taken on a satisfactory/unsatisfactory basis. Restricted to students in the College of Liberal Arts and the General Studies Program.
Prerequisite: Freshman or sophomore classification.

To: First-year seminar on interdisciplinary topics of interest in the humanities and social sciences. May be taken on a satisfactory/unsatisfactory basis.
Prerequisites: Freshman or sophomore classification; approval of the dean of liberal arts.

LBAR 203. Foundations of the Liberal Arts: Humanities.

Course description

From: The intellectual roots and characteristic values and methods of liberal arts studies with emphasis on humanities disciplines. Offered as an honors course only. Restricted to students in the College of Liberal Arts and the General Studies Program.

To: The intellectual roots and characteristic values and methods of liberal arts studies with emphasis on humanities disciplines.

LBAR 204. Foundations of the Liberal Arts: Social Sciences.

Course description

From: The intellectual roots and characteristic values and methods of liberal arts studies with emphasis on social science disciplines. Offered as an honors course only. Restricted to students in the College of Liberal Arts and the General Studies Program.

To: The intellectual roots and characteristic values and methods of liberal arts studies with emphasis on social science disciplines.

LBAR 381. Junior Seminar: Interdisciplinary Honors Seminar.

Course title

From: Junior Seminar: Interdisciplinary Honors Seminar.

To: Junior Seminar: Interdisciplinary Seminar.

Course description

From: Interdisciplinary studies in the humanities and the social sciences. Fulfills the junior seminar requirement of the Liberal Arts Honors Plan. May be repeated for credit. Restricted to students in the College of Liberal Arts and the General Studies Program.

To: Interdisciplinary studies in the humanities and the social sciences. May be repeated for credit.

OCEN 201. Introduction to Ocean Engineering.

Lecture hours, semester credit hours

From: (2-0). Credit 2.

To: (3-0). Credit 3.

Course description

From: Survey of ocean engineering; concepts and theories of wave-structure interaction; sources of technical information; coastal and ocean structures, moorings, laboratory models, underwater systems; naval architecture; recent developments in ocean engineering.

To: Survey of ocean engineering; concepts and theories of wave-structure interaction; sources of technical information; coastal and ocean structures, moorings, laboratory models; underwater systems; naval architecture; ocean instrumentation; materials and corrosion; hydrographic surveying and positioning, recent developments in ocean engineering.

OCEN 301. Dynamics of Offshore Structures.

Course number

From: OCEN 301.

To: OCEN 403.

Course description

From: Prediction of loads due to wind, current and waves; introduction to concepts of linear structural dynamics and to the design of ocean structures; mooring and towing analysis; fluid-structure interactions; vibration of submerged structures.

To: Prediction of loads due to wind, current and waves; introduction to concepts of linear structural dynamics and to the design of ocean structures; mooring and towing analysis; fluid-structure interactions; vibration of submerged structures; offshore pipelines; introduction to risk analysis.

OCEN 400. Basic Coastal Engineering.

Course description

From: Mechanics of wave motion; wave refraction, diffraction and reflection; wave forecasting; shore processes; planning of coastal engineering projects; design of seawalls, breakwaters and fixed offshore installations; offshore pipelines; dredging; control of oil spills in estuaries and at sea.

To: Mechanics of wave motion; wave refraction, diffraction and reflection; wave forecasting; shore processes; planning of coastal engineering projects; design of seawalls, breakwaters and fixed offshore installations; coastal pipelines; dredging; control of oil spills in estuaries and at sea; introduction to risk analysis.

OCEN 408. Underwater and Moored System Design.

Course description

From: Basic principles of thermodynamics, fluid dynamics and human respiration physiology applied to design of underwater habitats, submersibles and diving bells; breathing gas supply for diving systems; heat transfer for underwater systems; pressure vessel design; remotely operated vehicles; and design for towed and moored systems.

To: Basic principles of thermodynamics, fluid dynamics and human respiration physiology applied to design of underwater habitats, submersibles and diving bells; breathing gas supply for diving systems; heat transfer for underwater systems; pressure vessel design; remotely operated vehicles; subsea flowlines and manifold systems; and design of towed and moored systems.

OCEN 462. Hydromechanics.

Course number

From: OCEN 462.

To: OCEN 362.

PHYS 302. Advanced Mechanics.

Course title

From: Advanced Mechanics.

To: Advanced Mechanics I.

Lecture and credit hours

From: (4-0). Credit 4.

To: (3-0). Credit 3.

Course description and prerequisites

From: Motion of a particle in various force fields, systems of particles; rigid body motion, coupled oscillators and accelerated frames of reference.

Prerequisites: MATH 308; registration in MATH 311; PHYS 219.

To: Classical mechanics of particles and rigid bodies, both by direct application of Newton's equations and by Lagrangian methods; applications to gravity and other central forces, coupled oscillators, non-inertial reference frames, and the statics and dynamics of fluids with and without viscosity; introduction to statics of structures. Prerequisites: MATH 221 or 251 or 253; MATH 308; PHYS 208, 218, 222, and 331; concurrent enrollment in PHYS 332; for students with other backgrounds, approval of instructor.

SENG 422. Fire Protection Facilities Design.

Course description and prerequisites

From: Design of facilities from a fire protection engineering viewpoint including fire detection and fire control systems; materials, equipment, exposures, occupancies and processes; both public and industrial occupancies studied to determine fire protection design specifications. Prerequisite: SENG 322 or approval of instructor.

To: Fire protection design concepts and considerations for chemical, petrochemical, and hydrocarbon processing facilities; special attention given to fire hazard analysis, fire risk assessment, fire protection features, and emergency response; specific fire protection design considerations studied for various types of facilities and processes. Prerequisite: Senior classification or junior classification with approval of instructor.

4. Change in Curricula

Dwight Look College of Engineering

Zachry Department of Civil Engineering
B.S. in Civil Engineering

B.S. in Ocean Engineering

Department of Nuclear Engineering
B.S. in Nuclear Engineering

5. Tabled Item

The proposed requirement changes for the Minor in Spanish were tabled. A representative from the Department of Hispanic Studies should be present and a letter of support is needed from the College of Education.

6. Other Business

- Election of Chair and Vice-Chair will take place at next month's meeting.
- Joseph Fuller was introduced to committee members as the new UCC student representative.