

Members present: Sarah Bednarz (Vice Chair), College of Geosciences; Robert Knight, College of Agriculture and Life Sciences; Les Feigenbaum, College of Architecture; `Jon Jaspersen, Mays Business School; Christine Bergeron, College of Education and Human Development; Prasad Enjeti, Dwight Look College of Engineering; Mike Stephenson, College of Liberal Arts; Christine Farris (for Tm Scott), College of Science; Glenn Jones, Texas A&M University at Galveston; Jim Kracht (for Ann Kenimer), Undergraduate Studies; James Herman, College of Veterinary Medicine and Biomedical Sciences; Jean Layne, Center for Teaching Excellence; Justin Schilke, Office of the Registrar.

Guests: Donna Adcock, Department of Agricultural Economics; Julie Harlin, Department of Agricultural Leadership, Education and Communication; Donna Witt, Department of Animal Science; Nancy Klein, Department of Architecture; David Peterson, Department of Biochemistry and Biophysics; Ashlea Schroeder, Department of Biological and Agricultural Engineering; Fidel Fernandez, Department of Biomedical Engineering; Victor Ugaz, Department of Chemical Engineering; Richard Furuta, Department of Computer Science and Engineering; Joe Horlen and Bob Segner, Department of Construction Science; Sharon McCord, Curricular Services; David Byrd, College of Education and Human Development; Sally Kallina and Aydin Karsilayan, Department of Electrical and Computer Engineering; Whitney Korthauer and Blake Whitaker, Department of Engineering Technology and Industrial Distribution; Jennifer Wollock, Department of English; Rebecca Hapes, Ann Pool, and Pete Teel, Department of Entomology; Chris Houser, Department of Geography; Ming-Han Li, June Martin and Yu Xiao, Department of Landscape Architecture and Urban Planning; Robb Jenson, Department of Nuclear Engineering; Bryan Maggard, Department of Petroleum Engineering; Sam Murdock, Department of Plant Pathology and Microbiology; Megan Teel, Department of Soil and Crop Sciences.

The Undergraduate Curriculum Committee recommends approval of the following:

1. The minutes of the October 11, 2013 meeting with minor corrections.
2. New Courses

ACCT 322. Professional Development Seminar – BBA. (1-0). Credit 1. Exposure to professional issues in the practice of accounting, including potential careers and employers. Prerequisite: ACCT 327 with a grade of C or better.

AGEC 436. Insurance and Estate Planning. (3-0). Credit 3. Insurance and estate planning for individuals, families and small businesses; applies risk management principles to evaluate various insurance products, including life, disability, long-term care, health, homeowners, auto and liability; estate planning process, tools and considerations. Prerequisites: AGEC 330, AGEC 435, FINC 409 or FINC 341; junior or senior classification.

AGEC 437. Tax Planning. (3-0). Credit 3. Applies the principles of income, gift and estate tax planning to enhance household income after taxes; understanding tax laws, reporting requirements and opportunities for planning; identify and implement useful tax planning strategies; focus on practical application for financial planning. Prerequisites: AGEC 330, AGEC 435, FINC 409 or FINC 341; junior or senior classification.

AGSC 373. Managing Safety in the Agricultural Science Program. (2-2). Credit 3. Safety principles and procedures, methods of teaching and motivating students in agricultural mechanics; design for those preparing to teach agricultural science in Texas public schools. Prerequisite: Junior or senior classification.

ANSC 117. Texas Barbecue. (1-0). Credit 1. Survey, demonstration and participation in preparation techniques of Texas barbecue; comparison of regional and international barbecue methods. Prerequisite: First year students.

BMEN 211. Biomedical Applications of Circuits, Signals and Systems. (3-0). Credit 3. Quantitative analysis of biomedical and physiological signals; A/D conversion and sampling; Fourier and Laplace transforms; filtering of biomedical signals and images; electrical circuits and analog representations of physiological systems as model systems. Prerequisites: Admitted to major degree sequence in biomedical engineering, BMEN 207, and MATH 308 or concurrent enrollment.

BMEN 253. Medical Device Design I. (0-3). Credit 1. FDA design controls for medical device development in a regulated environment; small-scale team biomedical engineering design project. Prerequisites: Admitted to major degree sequence in biomedical engineering; VTPP 434; or approval of instructor.

BMEN 353. Medical Device Design II. (0-3). Credit 1. Identification of needs for biomedical engineering design solutions, development of design proposals, analysis of design project requirements and constraints. Prerequisite: BMEN 253 or equivalent; junior or senior classification.

BMEN 400. History of Human and Veterinary Medicine in Europe. (4-0). Credit 4. Addresses the major developments in human and veterinary medicine in Europe from the Middle Ages to the present; explores key events and figures in medical history and analyzes issues of current biomedical concern in a historical context; for example, animal rights, ethics of humane experimentation, euthanasia. Prerequisites: Admitted to major degree sequence in biomedical engineering; VTPP 434. Cross-listed with VTPP 401.

BMEN 465. Biomechanics Experiential Learning Lab. (0-3). Credit 1. Applications in biomechanics (solid and fluid); includes experimental methods used to investigate biomechanical factors in the assessment of therapeutic interventions; mechanical testing load frames; motion capture systems, high speed imaging and flow systems; hypothesis forming, experimental design, empirical observation, data collection and interpretation, and presentation of results. Prerequisites: Admitted to major degree sequence in biomedical engineering; junior or senior classification or approval of instructor.

BMEN 468. Advanced Biomechanics. (3-0). Credit 3. Application of fluid and solid mechanics to problems in biomedical engineering ranging from molecular-level to organ-level, including the mechanics of the cell cytoskeleton, whole cells, blood, arteries and the heart. Prerequisites: Admitted to major degree sequence in biomedical engineering; BMEN 361; or approval of instructor.

BMEN 487. Drug Delivery. (3-0). Credit 3. Mechanisms for controlled release of pharmaceutically active agents and the development of useful drug delivery systems; controlled release mechanisms including diffusive, convective, and erosive driving forces by using case studies related to oral, topical and parenteral release in a frontier interdisciplinary scientific research format. Prerequisite: Senior classification in biomedical engineering or approval of instructor.

CHEN 463. Systems Biology. (3-0). Credit 3. Experimental and computational techniques in systems biology; includes high throughput experiments, data analysis, modeling and simulation; discussed in the context to specific applications such as signal transduction. Prerequisite: CHEN 382 or approval of instructor.

COMM 438. Propaganda. (3-0). Credit 3. Examination of common propaganda strategies in contemporary mass mediated environments. Prerequisite: Junior or senior classification.

COSC 459. Industrial Construction. (3-0). Credit 3. Industry specific knowledge such as concepts of developing construction management strategies of industrial projects, materials and methods, structural and mechanical components; preparation to effectively resolve challenges faced in the industrial construction sector. Prerequisites: Admission to upper level in construction science; COSC 375.

CVEN 315. Sensor Technology for the Built Environment. (2-3). Credit 3. Fundamentals of sensor technology including laboratory safety, error analysis, statistical analysis, electric circuits, data acquisition, signal conditioning, signal analysis, strain gages, laser technology, image acquisition and analysis, fiber optic sensors, wireless sensors; its applications in civil engineering; and hands-on demonstrations relevant to the natural and built environment. Prerequisites: CVEN 302, junior or senior classification, or approval of instructor.

FIVS 308. Forensic Implications of Inheritance. (3-3). Credit 4. Forensic genetics with an emphasis on human molecular genetics, population genetics, and genetic application in the forensic sciences. Prerequisites: BIOL 112; upper division in forensic and investigative sciences; junior or senior classification.

FIVS 401. Forensic Soil Science. (2-2). Credit 3. Examination of soils biology, chemistry and physical attributes to solve crimes; soil and geologic characteristics associated with crime scene examination; physical, biological and chemical characteristics and use of trace evidence. Prerequisite: Junior or senior classification. Cross-listed with SCSC 401.

FSTC 444. Fundamentals of Food Law. (3-0). Credit 3. History, development of, and fundamental principles behind current food regulations, including food labeling, adulteration, food safety, food additives, dietary supplements, and import and export laws; overview of government agency jurisdiction, international law and ethics. Prerequisite: FSTC 201; junior or senior classification.

GEOG 392. GIS Programming. (3-2). Credit 4. Programming for geographic information science applications; principles of programming syntax and data structures; development of custom GIS programs; integration of programs into commercial GIS platforms. Prerequisites: GEOG 390 and ESSM 465 or equivalents, or approval of instructor; junior or senior classification.

GEOG 461. Digital Image Processing in the Geosciences. (3-2). Credit 4. Key remote-sensing digital image processing methods; advanced topics in feature extraction, radiometric calibration, image enhancement, pattern recognition and geoscience applications. Prerequisite: GEOG 361 or equivalent and junior or senior classification.

GEOG 477. Terrain Analysis and Mapping. (3-2). Credit 4. Geomorphometry for land surface characterization; fundamentals of terrain analysis; theory of land surface dynamics; application of software for digital terrain modeling and analysis. Prerequisites: GEOG 361 and GEOG 390 or equivalents, or approval of instructor; junior or senior classification.

GEOG 478. WebGIS. (3-2). Credit 4. Investigation of web-based geographic information systems; introduction to server-oriented architectures for web-based applications and services; development of web applications; management of web servers, web services and databases. Prerequisites: GEOG 390 and ESSM 465 or equivalents, or approval of instructor; junior or senior classification.

GEOG 479. Principles of Geocomputation. (3-2). Credit 4. Geocomputation including geospatial technologies, computational techniques and algorithms utilizing high-performance computing; fundamental geocomputation principles, artificial and computational intelligence. Prerequisites: GEOG 361 and GEOG 475 or equivalents, or approval of instructor; junior or senior classification.

IDIS 454. New Directions in Distributor Competitiveness. (3-0). Credit 3. Investigation of new research in distributor competitiveness; focus on defining distribution strategy in changing market places; exploration of the latest applied findings and how companies are successfully implementing initiatives; project management approach to demonstrate the development of competitive advantage and design strategies for implementation. Prerequisites: Admitted to major degree sequence (upper level) in industrial distribution; junior or senior classification.

IDIS 455. Humanitarian Distribution Networks. (3-0). Credit 3. Humanitarian logistics; essential knowledge to model distribution systems in humanitarian environments; supplemented by case studies and a project. Prerequisites: IDIS 343; admitted to major degree sequence (upper level) in industrial distribution; junior or senior classification.

INTS 409. Culture, Neoliberalism and Globalism. (3-0). Credit 3. Examination of largely North Atlantic cultural forms and meanings that arise in the context of neoliberalism from the late 1970's to the present; cultural studies and broad-based social analysis to identify and interrogate the many relational contexts where power circulates through cultural objects and meanings. Prerequisites: INTS 201; international studies major; junior or senior classification.

NRSC 336. Drugs and Behavior. (3-0). Credit 3. Physiological, pharmacological and behavioral effects of psychoactive drugs, including short-term and long-term effects of psychoactive drugs, properties of addictive drugs, etiology of addiction, and treatments of drug addiction and withdrawal. Prerequisites: PSYC 335 or NRSC 335; junior or senior classification. Cross-listed with PSYC 336.

NUEN 451. Nuclear Security System Design. (3-0). Credit 3. The science and engineering associated with the design, evaluation and implementation of systems to secure nuclear and radiological materials; adversary characterization, categorization of nuclear and radiological targets, calculation of consequences associated with failure to protect targets, detection and delay technologies, and mathematical methods for evaluation and managing risk. Prerequisites: NUEN 303 and NUEN 309 or equivalent, or approval of instructor.

OCNG 350. Marine Pollution. (3-0). Credit 3. Sources and fates of marine pollutants; types of pollutants including plastics, oil and sound; impact of pollution on society. Prerequisite: OCNG 251 or approval of instructor.

OCNG 404. Ocean Observing Systems. (3-0). Credit 3. Investigate the rationale behind ocean observing systems; familiarize with the relevant social, scientific design, technology and policy issues associated with observing systems. Prerequisite: OCNG 251 or OCNG 401 or approval of instructor.

PETE 402. Integrated Asset Development. (1-6). Credit 3. Capstone design encompassing previously acquired skills; project teams formed to solve practical petroleum engineering problems using current tools; technical content of the projects may include any combination of drilling and completion, formation evaluation, inflow/outflow design and analysis, and application of reservoir engineering principles. Prerequisites: PETE 404, PETE 405, PETE 410.

PETE 404. Integrated Reservoir Modeling. (3-0). Credit. Geophysical, geological, petrophysical and engineering data with geostatistical methods to create reservoir descriptions for dynamic reservoir modeling (simulation); geostatistical concepts such as variogram modeling, kriging and sequential Gaussian simulation; combines several techniques to quantify uncertainty in a realistic dynamic reservoir simulation. Corequisite: PETE 401.

PSYC 336. Drugs and Behavior. (3-0). Credit 3. Physiological, pharmacological and behavioral effects of psychoactive drugs, including short-term and long-term effects of psychoactive drugs, properties of addictive drugs, etiology of addiction, and treatments of drug addiction and withdrawal. Prerequisites: PSYC 335 or NRSC 335; junior or senior classification. Cross-listed with NRSC 336.

SEFB 430. Practicum in Applied Behavior Analysis. (0-9). Credit 3. University-supervised experience related to specializations in special education and behavior analysis. May be taken 8 times for credit. Prerequisites: Junior or senior classification; approval of instructor; approval of department head.

SEFB 431. Intensive Practicum in Applied Behavior Analysis. (0-9). Credit 3. University-supervised intensive experience related to specializations in special education and behavior analysis. May be taken 8 times for credit. Prerequisites: Junior or senior classification; approval of instructor; approval of department head.

3. Withdrawal of Courses

ARCH 390. Introduction to Architectural Research.

ARCH 407. Integrated Home Architecture Studio.

ARCH 408. Experimental Home Architecture.

ARCH 432. Integrated Home Structures and Construction.

ARCH 436. Integrated Home Architecture Systems.

ENDS 112. Environmental Responsibilities and Design.

PETE 400. Reservoir Description.

4. Change in Courses

ACCT 315. Intermediate Accounting for Non-Accounting Majors I.

Course prerequisites

From: Admission to upper division in Mays Business School.

To: ACCT 230 and admission to upper division in Mays Business School.

ACCT 327. Financial Reporting I.

Course prerequisites

From: Admission to upper division in Mays Business School.

To: ACCT 230 and admission to upper division in Mays Business School.

AFST 379. Postcolonial Studies.

Course title

From: Postcolonial Studies.

To: Postcolonial Literatures.

Course description and prerequisites

- From: Cultural expression of formerly colonized or occupied peoples; including authors such as Achebe, Appadurai, Du Bois, Césaire, Fanon, Freire, C.L.R. James, Ngũgĩ, Roy, Rushdie, Said, Soyinka, and Spivak. Prerequisites: 3 credits of literature at the 200-level or above; junior or senior classification or approval of instructor.
- To: Exploration of key terms, themes and debates within global literature written by colonized, occupied and diasporic peoples. Prerequisites: 3 credits of literature at the 200-level or above.

AGEC 435. Personal Financial Planning for Professionals.

Course title

- From: Personal Financial Planning for Professionals.
- To: Financial Planning for Professionals.

Course description and prerequisites

- From: Personal financial planning from a professional perspective; applying basic financial, economic, and institutional concepts to advise individuals, families, and small businesses in achieving their financial goals; tools and topics include financial analysis, budgeting, credit management, time value of money, investment strategies, income taxes, risk management, retirement, and estate planning. Prerequisites: AGECE 330 or 3 hours of finance; junior or senior classification.
- To: Financial planning from a professional perspective; applying basic financial, economic and institutional concepts to advise individuals, families and small businesses in achieving their financial goals; tools and topics include financial analysis, budgeting, credit management, time value of money, investment strategies, income taxes, risk management, and retirement and estate planning. Prerequisites: AGECE 330, FINC 409 or FINC 341; junior or senior classification.

AGSM 201. Farm Tractors and Power Units.

Course title

- From: Farm Tractors and Power Units.
- To: Agricultural Energy and Power Systems

Course description

- From: Tractors and other internal combustion power units used on farms; principles of operation, horsepower measurements, maintenance and adjustments of the electrical, ignition, fuel, lubricating and cooling systems.
- To: A study of the types of power and energy sources used in agricultural equipment and systems; management considerations for selecting, operating and maintaining internal combustion engines, electric equipment and motors, and renewables as power sources.

ANSC 411. Equine Nutrition and Health.

Lecture contact hours and semester credit hours

- From: (2-0). Credit 2.
- To: (3-0). Credit 3.

ARCH 216. Computational Methods in Architecture.

Lecture/lab contact hours and semester credit hours

From: (0-3). Credit 1.
To: (2-2). Credit 3.

Course description and prerequisites

From: Software and processes for computation design in architecture; image editing and creation, vector drawing, 3D modeling, parametric modeling, rendering techniques and simulation. May be taken two times for credit. Prerequisite: Classification in environmental design.
To: Software and processes for computation design in architecture; image editing and creation, vector drawing, 3D modeling, parametric modeling, rendering techniques and simulation. Prerequisite: ENDS 116 or approval of instructor.

ARTS 303. Graphic Design I.

Lab contact hours

From: (2-3). Credit 3.
To: (2-4). Credit 3.

ARTS 311. Black and White Photography.

Lab contact hours

From: (2-3). Credit 3.
To: (2-4). Credit 3.

BAEN 465. Design of Biological Waste Treatment Systems.

Course prerequisites

From: BAEN 302; junior or senior classification or approval of instructor.
To: BAEN 302; BAEN 340; junior or senior classification or approval of instructor.

BICH 404. Biochemical Calculations.

Lecture contact hours and semester credit hours

From: (1-0). Credit 1.
To: (2-0). Credit 2.

BMEN 240. Biosolid Mechanics.

Course number

From: BMEN 240.
To: BMEN 361.

Course prerequisites

From: Admitted to major degree sequence in biomedical engineering; BMEN 231.
To: Admitted to major degree sequence in biomedical engineering; BMEN 341.

COMM 308. Research Methods in Communication.

Course prerequisites

From: Any lower-division communication course, or junior classification, or approval of instructor.

To: MATH 141 or MATH 166, and MATH 131 or MATH 142 or MATH 151 or PHIL 240; or MATH 151 and MATH 152.

COSC 321. Structural Systems I.

Lecture/lab contact hours

From: (2-2). Credit 3.

To: (3-0). Credit 3.

Course description

From: Introduction to the physical principles that govern classical statics and strengths of materials through the design of timber and steel components of architectural structures; with computer applications.

To: Introduction to the physical principles that govern classical statics and strengths of materials through the design of architectural structures.

COSC 325. Environmental Control Systems I.

Course title

From: Environmental Control Systems I.

To: Mechanical, Electrical and Plumbing Systems in Construction I.

Course description

From: Building environmental systems with a major emphasis on the design and control of the heating, ventilation and cooling system, site planning and acoustical treatments.

To: Design, operation, materials and installation methods of mechanical, electrical and plumbing systems in construction.

COSC 326. Environmental Control Systems II.

Course title

From: Environmental Control Systems I.

To: Mechanical, Electrical and Plumbing Systems in Construction II.

Course description

From: Building environmental systems with major emphasis on the design of plumbing and drainage systems, electrical, fire and lightning protection and lighting; design opportunities, calculations, equipment selection and economics as they relate to design and construction.

To: In depth coverage of mechanical, electrical and plumbing (MEP) system operations, materials and installation methods; development of MEP drawings, specifications and contract documents as used in MEP specialty contracting industry.

COSC 421. Structural Systems II.

Course title

From: Structural Systems II.

To: Soil and Structural Analysis.

Course description

From: Analysis and design of structural members in steel and concrete and their relationship to building design and construction; with computer analysis and design of specific topics.

To: Advanced structural analysis of steel and concrete members with an introduction to soil properties and constituents; utilizations of computer analysis tools.

COSC 440. Interdisciplinary Capstone.

Lecture/lab contact hours and semester credit hours

From: (2-3). Credit 3.

To: (4-0). Credit 4.

COSC 441. Residential Capstone.

Lecture/lab contact hours and semester credit hours

From: (2-3). Credit 3.

To: (4-0). Credit 4.

COSC 442. Commercial Capstone.

Lecture/lab contact hours and semester credit hours

From: (2-3). Credit 3.

To: (4-0). Credit 4.

COSC 443. Industrial Capstone.

Lecture/lab contact hours and semester credit hours

From: (2-3). Credit 3.

To: (4-0). Credit 4.

COSC 446. Specialty Capstone.

Lecture/lab contact hours and semester credit hours

From: (2-3). Credit 3.

To: (4-0). Credit 4.

COSC 494. Internship.

Semester credit hours

From: Credit 6.

To: Credit 7.

ECEN 322. Electric and Magnetic Fields.

Course prerequisites

From: ECEN 214; PHYS 208; junior or senior classification.

To: ECEN 214, PHYS 208, and MATH 311 with a grade of C or better; junior or senior classification.

ECEN 325. Electronics.

Course prerequisites

From: ECEN 314 or registration therein.

To: MATH 311 with a grade of C or better; ECEN 314 with a grade of C or better, or registration therein.

ECEN 403. Electrical Design Laboratory I.

Course prerequisites

From: ECEN 214, ECEN 314, ECEN 325; ENGL 210, ENGL 241 or ENGL 301 or COMM 203 or COMM 205; senior classification.

To: ECEN 303, ECEN 314, ECEN 322, ECEN 325, ECEN 350, and ECEN 370 with a grade of C or better; COMM 205 or COMM 243 or ENGL 210; senior classification.

ECEN 468. Advanced Logic Design.

Course title

From: Advanced Logic Design.

To: Advanced Digital System Design.

Course description

From: Introduction to the design, modeling and verification of complex digital systems; modern design methodologies for logic design; development of tools for the design and testing of digital systems.

To: Design, modeling and verification of complex digital systems using hardware description language and electronic system level language.

ENGL 340. Twentieth-Century Drama.

Course title

From: Twentieth-Century Drama.

To: Modern and Contemporary Drama.

Course description

From: Representative plays and performances from the late nineteenth through the twentieth century, including such authors as Ibsen, Strindberg, Chekhov, Brecht, Hansberry and Shange.

To: Representative plays and performances from the late nineteenth century to the present.

ENGL 350. Twentieth-Century Literature to World War II.

Course description

From: British and American novelists, poets and dramatists from late nineteenth to mid-twentieth century.

To: Novelists, poets and dramatists writing in English from the late nineteenth to mid-twentieth century.

ENGL 379. Postcolonial Studies.

Course title

From: Postcolonial Studies.

To: Postcolonial Literature.

Course description and prerequisites

From: Cultural expression of formerly colonized or occupied peoples; including authors such as Achebe, Appadurai, Du Bois, Cesaire, Fanon, Freire, C.L.R. James, Ngugi, Roy, Rushdie, Said, Soyinka, and Spivak. Prerequisites: 3 credits of literature at the 200-level or above; junior or senior classification or approval of instructor.

To: Exploration of key terms, themes and debates within global literature written by colonized, occupied and diasporic peoples. Prerequisites: 3 credits of literature at the 200-level or above.

ENGL 391. Folklore, Literature and World Cultures.

Course prerequisites

From: ENGL 104; junior or senior classification or approval of instructor.

To: Junior or senior classification.

ENGL 474. Studies in Women Writers.

Course description and prerequisites

From: A different specific topic each term examining women's writing through historical period, genre, cross-cultural study, or feminist literary theory, including minority and third world writers; features current faculty research on such topics as Early Modern women and the theatre and Orientality. May be repeated for credit. Prerequisites: 3 credits of literature at 200-level or above or approval of instructor; junior or senior classification.

To: A different topic each term examining women's writing through historical period, genre, cross-cultural study and/or feminist literary theory. May be repeated for credit. Prerequisites: 3 credits of literature at the 300-level; junior or senior classification.

ENTC 333. Product Development.

Lecture/lab contact hours and semester credit hours

From: (1-3). Credit 2.

To: (2-3). Credit 3.

ENTC 350. Analog Electronics.

Course prerequisites

From: ENTC 211; admitted to major degree sequence (upper-level) in engineering technology.

To: ENTC 211, CHEM 107, admitted to major degree sequence.

ENTC 419. Engineering Technology Capstone I.

Course prerequisites

From: ENTC 369 and senior classification.

To: ENTC 369, ENTC 333, and senior classification.

ENTO 301. Biodiversity and Biology of Insects.

Course prerequisites

From: 6 hours of biological sciences; junior or senior classification or approval of instructor.

To: ENTO 201 or ENTO 208; 6 hours of biological sciences; junior or senior classification or approval of instructor.

ENTO 306. Insect Physiology.

Course prerequisites

From: ENTO 201 or equivalent.

To: ENTO 201 or ENTO 208; BIOL 111 and BIOL 112; CHEM 101/CHEM 111 and CHEM 102/CHEM 112.

ENTO 401. Principles of Insect Pest Management.

Course title

From: Principles of Insect Pest Management.

To: Principles of Integrated Pest Management.

Course description and prerequisites

From: Basic tenets of integrated pest management emphasizing ecological principles; integration of chemical, biological, cultural and physical tactics into an overall strategy for the agroecosystem; chemical pesticides, cultural practices, host resistance, biological control, sterility principle, economics of pest control and pest/host relationships. Prerequisite: ENTO 201 or equivalent.

To: Integrated pest management (IPM) concepts, principles, development and application; IPM constitutes a series of pest control tactics and strategies toward more sustainable agriculture, natural resources, and urban and rural health and well-being. Prerequisite: ENTO 201 or ENTO 208.

ENTO 482. Occupational and Professional Development.

Course prerequisites

From: Junior or senior classification or approval of instructor.

To: ENTO 201 or ENTO 208; or approval of instructor.

FINC 368. Trade Floor Dynamics.

Course prerequisites

From: Admission to upper division in Mays Business School or approval of instructor; admission to Trading, Risk and Investment Program (TRIP).

To: FINC 341 or concurrent enrollment; admission to Trading, Risk and Investment Program (TRIP).

FINC 421. Investment Analysis.

Course number

From: FINC 421.

To: FINC 351.

Course prerequisites

From: ACCT 315 or ACCT 327 with a grade of C or better; FINC 341 with a grade of C or better; SCMT 303 with a grade of C or better or AP STAT 301.

To: ACCT 315 or ACCT 327, or concurrent enrollment; FINC 341 with a grade of C or better; SCMT 303 or concurrent enrollment, or AP STAT 301 or AP STAT 302 or AP STAT 303.

FINC 422. Applied Investment Analysis.

Course prerequisites

From: Approval of instructor; FINC 421 and FINC 434.

To: Approval of instructor; FINC 351 and FINC 361.

FINC 423. Options and Financial Futures.

Course prerequisites

From: FINC 421 and FINC 434.

To: FINC 351 and FINC 361.

FINC 424. Trading Risk Management.

Course prerequisites

From: FINC 421 and FINC 434.

To: FINC 351 and FINC 361.

FINC 425. Active Portfolio Management.

Course prerequisites

From: FINC 421 and FINC 434.

To: FINC 351 and FINC 361.

FINC 426. Trading Markets.

Course prerequisites

From: FINC 421 and FINC 434.

To: FINC 351 and FINC 361.

FINC 427. Titans of Investing.

Course prerequisites

From: Junior or senior classification; approval of instructor.

To: FINC 341 or FINC 409, or concurrent enrollment in either course; approval of instructor.

FINC 428. Fixed Income Analysis.

Course prerequisites

From: FINC 421 and FINC 434.

To: FINC 351 and FINC 361.

FINC 434. Managerial Finance I.

Course number

From: FINC 434.

To: FINC 361.

Course prerequisites

From: ACCT 315 or ACCT 327 with a grade of C or better; FINC 341 with a grade of C or better; SCMT 303 with a grade of C or better or AP STAT 301.

To: ACCT 315 or ACCT 327, or concurrent enrollment; FINC 341 with a grade of C or better; SCMT 303 or concurrent enrollment, or AP STAT 301 or AP STAT 302 or AP STAT 303.

FINC 435. Managerial Finance II.

Course prerequisites

From: FINC 421 and FINC 434.

To: FINC 351 and FINC 361.

FINC 443. Valuation.

Course prerequisites

From: FINC 421 and FINC 434.

To: FINC 351 and FINC 361.

FINC 445. Funding International Business.

Course title

From: Funding International Business.

To: International Finance.

Course prerequisites

From: FINC 341 with a grade of C or better.

To: FINC 351 and FINC 361.

FINC 449. Financial Modeling.

Course prerequisites

From: FINC 421 and FINC 434.

To: FINC 351 and FINC 361.

FINC 460. Money and Capital Markets.

Course number

From: FINC 460.

To: FINC 381.

FINC 462. Commercial Bank Management.

Course prerequisites

From: FINC 460.

To: FINC 381 or concurrent enrollment.

FINC 466. Wall Street, Investment Banking and the Financial Markets.

Course prerequisites

From: Admission to upper division in Mays Business School and approval of instructor.

To: FINC 351 and FINC 361 and approval of instructor.

FINC 472. Real Estate Finance.

Course prerequisites

From: FINC 341 with a grade of C or better; FINC 371.

To: FINC 351, FINC 361 and FINC 371.

FINC 473. Real Estate Appraisal.

Course prerequisites

From: FINC 371.

To: FINC 351, FINC 361 and FINC 371.

FINC 475. Real Estate Investment Analysis.

Course prerequisites

From: FINC 341 with a grade of C or better.

To: FINC 351 and FINC 361.

FIVS 316. Biotechnology and Forensics.

Course prerequisites

From: GENE 301, or equivalent, junior or senior classification or approval of instructor.

To: GENE 301 or GENE 310 or FIVS 308 or approval of instructor.

GEOG 352. GPS in Geosciences.

Course title

From: GPS in the Geosciences.

To: GNSS in the Geosciences.

Lecture contact hours and semester credit hours

From: (1-3). Credit 2.

To: (2-3). Credit 3.

Course description

From: Introduction to the Global Positioning System (GPS); basic geodesy, figure of the earth; frames of reference, map projection, datums, ellipsoids; GPS accuracy and precision; applications in earth resource mapping and database creation; elementary GPS phase data processing.

To: Fundamentals of Global Navigation Satellite Systems (GNSS); basic geodesy, figure of the earth; frames of reference, map projection, datums, ellipsoids; GPS accuracy and precision; applications in earth resource mapping and database creation; elementary GPS phase data processing.

GEOG 361. Remote Sensing in Geosciences.

Course prerequisites

From: GEOG 332 or approval of instructor.

To: Junior or senior classification.

GEOG 390. Principles of Geographic Information Systems.

Lecture contact hours and semester credit hours

From: (2-2). Credit 3.

To: (3-2). Credit 4.

Course inventory course title

From: PRIN OF GIS

To: PRINCIPLES OF GIS

GEOG 475. Advanced Topics in GIS (Geographic Information Systems).

Course title

From: Advanced Topics in GIS (Geographic Information Systems).

To: Advanced Topics in Geographic Information Systems.

GEOG 476. GIS Practicum.

Course title

From: Senior classification and enrollment in Geographic Information Science Option in geography or approval of instructor.

To: Senior classification and enrollment in Geographic Information Science and Technology or approval of instructor.

GEOL 352. GPS in the Geosciences.

Course title

From: GPS in the Geosciences.
To: GNSS in the Geosciences.

Lecture contact hours and semester credit hours

From: (1-3). Credit 2.
To: (2-3). Credit 3.

Course description

From: Introduction to the Global Positioning System (GPS); basic geodesy, figure of the earth; frames of reference, map projection, datums, ellipsoids; GPS accuracy and precision; applications in earth resource mapping and database creation; elementary GPS phase data processing.
To: Fundamentals of Global Navigation Satellite Systems (GNSS); basic geodesy, figure of the earth; frames of reference, map projection, datums, ellipsoids; GPS accuracy and precision; applications in earth resource mapping and database creation; elementary GPS phase data processing.

HLTH 481. Seminar in Allied Health.

Course description and prerequisites

From: Admission to allied health professional school and/or careers; research on selected allied health fields, discussion of transition from college environment to professional school/career environment including professional development. Prerequisites: Junior or senior classification; admission to the professional phase.
To: Admission to allied health professional school and/or careers; research on selected allied health fields, discussion of transition from college environment to professional school/career environment including professional development. Must be taken on a satisfactory/unsatisfactory basis. Prerequisites: Junior or senior classification.

IBUS 446. Funding International Business.

Course title

From: Funding International Business.
To: International Finance.

Course prerequisites

From: FINC 341 with a grade of C or better.
To: FINC 351 and FINC 361.

ISYS 310. Data Communications and Network-Based Systems.

Course prerequisites

From: Admission to upper division in Mays Business School.
To: ISYS 210 and admission to upper division in Mays Business School.

MGMT 363. Managing People in Organizations.

Course prerequisites

From: Admission to upper division in Mays Business School.

To: MGMT 211 and admission to upper division in Mays Business School.

MUSC 311. Music in Early Western Culture.

Course prerequisites

From: MUSC 205 or approval of instructor.

To: MUSC 202, MUSC 205, or approval of instructor.

MUSC 312. Music in Modern Western Culture.

Course prerequisites

From: MUSC 205 or approval of instructor.

To: MUSC 202, MUSC 205, or approval of instructor.

NUEN 304. Nuclear Reactor Analysis.

Course prerequisites

From: NUEN 301.

To: NUEN 301; MATH 309.

NUEN 304. Nuclear Engineering Systems and Design.

Course prerequisites

From: NUEN 304.

To: NUEN 304; MEEN 461 or approval of instructor.

PETE 225. Petroleum Drilling Systems.

Course title

From: Petroleum Drilling Systems.

To: Introduction to Drilling Systems.

Lecture contact hours and semester credit hours

From: (1-3). Credit 2.

To: (2-3). Credit 3.

PETE 310. Reservoir Fluids.

Course prerequisites

From: PETE 311; CHEM 107; MEEN 315; MATH 308 or registration therein, junior or senior classification, petroleum engineering majors only; or approval of instructor.

To: CHEM 107, MATH 251, MEEN 315, PETE 311. Corequisite: MATH 308.

PETE 311. Reservoir Petrophysics.

Course description and prerequisites

From: Systematic theoretical and laboratory study of physical properties of petroleum reservoir rocks; lithology, porosity, elastic properties, strength, acoustic properties, electrical properties, relative and effective permeability, fluid saturations, capillary characteristics, and rock-fluid interaction. Prerequisites: MATH 251; PHYS 218; GEOL 104 or registration therein, junior or senior classification, petroleum engineering majors only; or approval of instructor.

To: Systematic theoretical and laboratory study of physical properties of petroleum reservoir rocks; lithology, porosity, elastic properties, strength, acoustic properties, electrical properties, relative and effective permeability, fluid saturations, capillary characteristics and rock-fluid interactions such as adsorption and absorption. Prerequisites: MATH 251, PHYS 218. Corequisite: GEOL 104.

PETE 314. Transport Processes in Petroleum Production.

Course description

From: Theory and application of fluid mechanics (statics; mass, energy, momentum balances; laminar and turbulent flow, Reynolds number, Moody diagram; non-Newtonian fluid flow; multi-phase flow; flow in porous media, non-Darcy flow); heat transfer; transport phenomena analogies; analysis and selection of pumps, compressors and heat exchangers.

To: Basics and applications of fluid mechanics (statics; mass, energy, momentum balances; laminar and turbulent flow, Reynolds number, Moody diagram; non-Newtonian fluid flow; multi-phase flow; flow in porous media, non-Darcy flow); heat transfer (heat conduction, convection, heat exchangers); emphasis on analogies and similarities within mass, energy and momentum transport.

PETE 321. Formation Evaluation.

Course description

From: Well logging methods and evaluation of well logs for formation evaluation; basic logging principles, theory of tool operation, open hole log analysis to estimate rock and fluid properties, including porosity, net pay thickness and saturation; capillary pressure-saturation relationships, shaly sand analysis, core-log integration and resource determination.

To: Well-log interpretation for formation evaluation of hydrocarbon-bearing reservoirs; basic rock physics principles; theory of tool operation; analysis of open hole logs and core measurements to estimate hydrocarbon reserves and petrophysical properties of the formation such as porosity, net pay thickness, water/hydrocarbon saturation, permeability and saturation-dependent capillary pressure; formation evaluation of clay-free and shaly-sand formations as well as basic introduction to formation evaluation of organic-shale formations.

PETE 323. Reservoir Models.

Course title

From: Reservoir Models.

To: Fundamentals of Reservoir Engineering.

Course description

- From: Determination of reserves; material balance methods; aquifer models; fractional flow and frontal advance; displacement, pattern, and vertical sweep efficiencies in waterfloods; enhanced oil recovery processes; design of optimal recovery processes.
- To: Determination of reserves; material balance methods; aquifer models; fractional flow and frontal advance; displacement, pattern and vertical sweep efficiencies in waterfloods; enhanced oil recovery processes; design of optimal recovery processes; introduction and performance analysis of unconventional reservoirs.

PETE 324. Well Performance.

Course title

- From: Well Performance.
- To: Well Testing.

Course description

- From: Steady-state, pseudosteady-state, and transient well testing methods to determine well and reservoir parameters used in formation evaluation; applications to wells that produce gas and liquid petroleum, rate forecasting, deliverability testing.
- To: Analysis of well performance under varied reservoir conditions including evaluation of unsteady, pseudo-steady and steady state flow; well testing methods used to determine well and reservoir parameters; applications to conventional and unconventional wells producing gas and/or liquids; fundamentals of preparing and operating well test equipment to monitor, measure and gather samples for evaluating well performance.

PETE 325. Petroleum Production Systems.

Lecture contact hours and semester credit hours

- From: (1-3). Credit 2.
- To: (2-3). Credit 3.

Course description

- From: Introduction to production operations and oil field equipment, multiphase flow in pipes, bottomhole pressure prediction, inflow/outflow performance, production systems and backpressure analysis, hydraulic fracturing fluids and equipment; downhole and artificial lift equipment, tubulars, workover/completion nomenclature and procedures; produced fluids, fluid separation and metering, safety systems, pressure boosting and monitoring.
- To: Petroleum operation and oil field equipment including onshore and offshore production systems; wellbore inflow and outflow and backpressure analysis; downhole completion and sand control equipment; artificial lift equipment and design; stimulation, workover/completion nomenclature; flow assurance; produced fluids, fluid separation and metering, safety systems, pressure boosting and monitoring.

PETE 335. Technical Presentations I.

Course description

- From: Preparation of a written technical paper on a subject related to petroleum technology and an oral presentation of the paper in a formal technical conference format; oral presentations judged by petroleum industry professionals.
- To: Preparation of a written technical paper proposal on a subject related to petroleum technology and an oral presentation of the proposal in a formal technical conference format; oral presentations are judged by petroleum industry professionals at the departmental student paper contest held during the same academic year.

PETE 401. Reservoir Simulation.

Lecture contact hours and semester credit hours

- From: (2-3). Credit 3.
To: (1-3). Credit 2.

Course prerequisites

- From: PETE 310, PETE 321, PETE 323, PETE 324, PETE 325, PETE 403, senior classification, petroleum engineering majors only; or approval of instructor.
- To: PETE 310, PETE 321, PETE 323, PETE 324.

PETE 403. Petroleum Project Evaluation.

Course number

- From: PETE 403.
To: PETE 353.

Course description and prerequisites

- From: Analysis of investments in petroleum and mineral extraction industries; depletion, petroleum taxation regulations, and projects of the type found in the industry; mineral project evaluation case studies. Prerequisites: PETE 301, PETE 310, PETE 311, PETE 314, junior or senior classification, petroleum engineering majors only; or approval of instructor.
- To: Economic analysis and investment decision methods in petroleum and mineral extraction industries; depletion, petroleum taxation regulations, and projects of the type found in the industry; mineral project evaluation case studies. Corequisites: PETE 301, PETE 310.

PETE 405. Drilling Engineering.

Course number

- From: PETE 405.
To: PETE 355.

Course description and prerequisites

- From: The design and evaluation of well drilling systems; identification and solution of drilling problems; wellbore hydraulics, well control, casing design; well cementing, wellbore surveying. Prerequisites: PETE 225, PETE 321, PETE 325, PETE 403, senior classification, petroleum engineering majors only; or approval of instructor.

To: Design and evaluation of well drilling systems; identification and solution of drilling problems; wellbore hydraulics, well control, casing design; well cementing directional drilling, offshore drilling. Prerequisites: PETE 225, PETE 314; Corequisites: PETE 321, PETE 325.

PETE 406. Advanced Drilling Engineering.

Course title

From: Advanced Drilling Engineering.
To: High Performance Drilling Design and Operational Practices.

Course description and prerequisites

From: Well control; underbalanced drilling; offshore drilling; horizontal, extended reach, multi-lateral drilling; fishing operations. Prerequisite: PETE 405.
To: Preparation in achieving differentiating drilling performance in the most complex wells; includes training in the underlying physics of each type of performance limiter and real time and engineering practices to address the limitation; performance management workflows and change models required to effectively change the way organizations conduct work essential in achieving higher performance. Prerequisite: PETE 355.

PETE 410. Production Engineering.

Course description and prerequisites

From: Fundamental production engineering design, evaluation and optimization for oil and gas wells, including well deliverability, formation damage and skin analysis, completion performance, and technologies that improve oil and gas well performance (artificial lift and well stimulation). Prerequisites: PETE 321, PETE 323, PETE 324, PETE 325, PETE 403.
To: Fundamental production engineering design, evaluation and optimization for oil and gas producing well; well deliverability; formation damage and skin analysis; well completion selection; technologies that improve oil and gas well performance including artificial lift and well stimulation. Prerequisites: PETE 321, PETE 323, PETE 324, PETE 325.

PETE 416. Production Enhancement.

Course title

From: Production Enhancement.
To: Solving Common Production Engineering Problems.

Course description

From: Design, diagnosis and solution of production problems, and optimization of the technologies that increase oil and gas well performance; integration of the different elements of a production system to maximize recovery from a field.
To: Application of petroleum engineering tools, methods and techniques to solve real problems that petroleum engineers encounter in producing individual wells; focus primarily on problems associated with single-phase gas wells and uses Microsoft Excel to solve many of these problems.

PETE 435. Technical Presentations II.

Course prerequisites

- From: PETE 335, satisfactory performance in PETE 335 student paper contest, senior classification, petroleum engineering majors only; or approval of department head.
To: PETE 335; satisfactory performance in junior student paper contest.

PHIL 342. Symbolic Logic II.

Course prerequisites

- From: PHIL 341 or approval of department head.
To: PHIL 240 or PHIL 341, or approval of instructor.

SCSC 401. Forensic Soil Science.

Lecture/lab contact hours

- From: (3-0). Credit 3.
To: (2-2). Credit 3.

Course description

- From: Soil and geologic characteristics associated with crime scene examination; physical and chemical characteristics; use of trace evidence, glass and amorphous materials, fossils; fourier and fractal analysis; x-ray tomography and laser profilometry; soil and geologic isotope composition.
To: Examination of soils biology, chemistry and physical attributes to solve crimes; soil and geologic characteristics associated with crime scene examination; physical, biological and chemical characteristics and use of trace evidence.

Cross-listing

- From: None.
To: Cross-listed with FIVS 401.

SPED 312. Effective Reading Instruction for Students with Disabilities.

Course title

- From: Effective Reading Instruction for Students with Disabilities.
To: Effective Reading Instruction for Students with Diverse Abilities.

Course description

- From: Information and competencies in research-based reading instruction for students who are at-risk or who have disabilities; includes reading assessment, dyslexia, and effective instruction in phonemic awareness, phonics, reading, fluency, vocabulary and comprehension, Response to Intervention (RTI) strategies, and data driven decision-making.
To: Information and competencies in research-based reading instruction for students who have disabilities, are struggling readers, and are bilingual/multilingual; includes reading assessment, dyslexia and effective instruction in phonemic awareness, phonics, reading fluency, vocabulary and comprehension, Response to Intervention (RTI) strategies, and data driven decision-making.

URPN 201. Urban Form and City Planning.

Course title

From: Urban Form and City Planning.
To: The Evolving City.

Course prerequisites

From: Urban and regional planning majors only, department minors or approval of instructor.
To: None.

URPN 301. Urban and Regional Planning.

Course number

From: URPN 301.
To: URPN 202.

Course title

From: Urban and Regional Planning.
To: Building Better Cities.

Course prerequisites

From: Junior or senior classification or approval of instructor.
To: None.

URPN 461. Urban Issues.

Course number

From: URPN 461.
To: URPN 361.

WGST 474. Studies in Women Writers.

Course description and prerequisites

From: A different specific topic each term examining women's writing through historical period, genre, cross-cultural study, or feminist literary theory, including minority and third world writers; features current faculty research on such topics as Early Modern women and the theatre and Orientality. May be repeated for credit. Prerequisites: 3 credits of literature at 200-level or above or approval of instructor; junior or senior classification.

To: A different topic each term examining women's writing through historical period, genre, cross-cultural study and/or feminist literary theory. May be repeated for credit. Prerequisites: 3 credits of literature at the 300-level; junior or senior classification.

5. Change in Curricula

College of Agriculture and Life Sciences

Department of Agricultural Economics
BS in Agribusiness

Department of Agricultural Leadership, Education, and Communications
BS in Agricultural Science - Teaching Option

Department of Animal Science
BS in Animal Science - Production/Industry Option
BS in Animal Science - Science Option

Department of Biochemistry and Biophysics
BS in Biochemistry
BS in Genetics

Department of Biological and Agricultural Engineering
BS in Agricultural Systems Management
BS in Biological and Agricultural Engineering

Department of Entomology
BS in Entomology
BS in Forensic and Investigative Science - Pre-Law Emphasis
BS in Forensic and Investigative Science - Science Option

Department of Nutrition and Food Science
BS in Food Science and Technology - Food Science Option
BS in Food Science and Technology - Industry Option
BS in Nutritional Sciences - Didactic Program in Dietetics Track
BS in Nutritional Sciences - General Nutrition Track
BS in Nutritional Sciences - Molecular & Experimental Nutrition Track

Department of Plant Pathology and Microbiology
BS in Bioenvironmental Sciences
BS in Environmental Studies
BS in University Studies - Environmental Business

Department of Soil and Crop Sciences
BS in Plant and Environmental Soil Science - Crops Emphasis
BS in Plant and Environmental Soil Science - Soil and Water Emphasis
BS in Turfgrass Science

College of Architecture

BS in University Studies - Global Arts, Planning, Design and Construction

Department of Architecture
BED in Environmental Design - Architectural Studies

Department of Construction Science
BS in Construction Science

Department of Landscape Architecture and Urban Planning
BLA in Landscape Architecture
BS in Urban and Regional Planning

Department of Visualization
BS in Visualization
Minor in Art

Mays Business School

BBA in Business Honors
BS in Agribusiness
BS in University Studies – Business
BS in University Studies – Honors

Department of Accounting
BBA in Accounting
BBA in Accounting - 5 Year Leading to MS

Department of Finance
BBA in Finance

Department of Information and Operations Management
BBA in Management Information Systems
BBA in Supply Chain Management

Department of Management
BBA in Management
Consulting and General Management Track
Entrepreneurial Leadership Track
Human Resource Management Track
Nonprofit Management Track
Pre-Law Track

Department of Marketing
BBA in Marketing

College of Education and Human Development

BS in University Studies – Honors

Department of Educational Administration and Human Resource Development
B.S. in Human Resource Development

Department of Educational Psychology
BS in Interdisciplinary Studies - Bilingual Education
BS in Interdisciplinary Studies - Special Education
BS in University Studies - Child Professional Services (Non-Certification)

Department of Teaching, Learning and Culture
BS in Interdisciplinary Studies - EC-6 Generalist Education
BS in Interdisciplinary Studies - Language Arts/Social Studies

BS in Interdisciplinary Studies - Math/Science

Dwight Look College of Engineering

Department of Biomedical Engineering
BS in Biomedical Engineering

Artie McFerrin Department of Chemical Engineering
BS in Chemical Engineering

Zachry Department of Civil Engineering
BS in Civil Engineering - Coastal and Ocean Engineering Track
BS in Civil Engineering - Construction Engineering and Management Track
BS in Civil Engineering - Environmental Engineering Track
BS in Civil Engineering - General Civil Engineering Track
BS in Civil Engineering - Geotechnical Engineering Track
BS in Civil Engineering - Structural Engineering Track
BS in Civil Engineering - Transportation Engineering Track
BS in Civil Engineering - Water Resources Engineering Track

BS in Ocean Engineering

Department of Computer Science and Engineering
BS in Computer Science

Department of Electrical and Computer Engineering
BS in Electrical Engineering

Department of Engineering Technology and Industrial Distribution
BS in Electronic Systems Engineering Technology
BS in Manufacturing and Mechanical Engineering
BS in Industrial Distribution

Harold Vance Department of Petroleum Engineering
BS in Petroleum Engineering
Minor in Petroleum Engineering

College of Geosciences

BS in Environmental Geoscience

Department of Geography
BS in Environmental Studies
BS in Geography
BS in Geography - Geographic Information Science Option
BS in Spatial Sciences

Department of Geology and Geophysics
BA in Geology
BS in Geology
BS in Geophysics

College of Science

BS in University Studies – Honors
BS in University Studies - Mathematics for Teaching
BS in University Studies - Science for Secondary Teaching

Department of Biology

BA in Biology
BS in Biology

College of Veterinary Medicine and Biomedical Sciences

BS in Biomedical Science

6. Texas A&M University at Galveston

a. New Courses

ENGL 210. Technical and Business Writing. (3-0). Credit 3. Focus on writing for professional settings; correspondence and researched reports fundamental to the technical and business workplace—memoranda, business letters, research proposals and presentations, use of graphical and document design; emphasis on audience awareness, clarity of communication and collaborative team-work.

MARB 407. Research and Conservation in the Gulf of Corinth, Greece: Dolphins, Fisheries, and Cultural Heritage. (3-3). Credit 4. Lectures, readings and labs on the ecology and behavior of the vertebrate fauna of the Gulf of Corinth, Greece; laboratory hands-on experience of the marine environment from boats, readings, videos, interpretation and select major peer-review scientific papers and books. Prerequisites: Junior or senior classification; MARB 315; or approval of instructor.

MART 498. Maritime Medical Care. (1-3). Credit 2. Advanced training for medical care of sick and injured in maritime field; course assessments meet the Standards of Training, Certification, and Watchkeeping Table A-VI/1-3 and Table A-VI/4 (1-2); successful completion of course awards student a Basic Safety Training for Elementary First Aid, Health Care Provider and Medical Person in Charge. Prerequisites: KINE 120, MART 200, MART 300, junior or senior classification, or approval of instructor.

MASE 261. Applied Numerical Methods. (3-0). Credit 3. Application of numerical methods to ocean-related engineering problems; development, evaluation and comparison of various techniques for root finding, curve fitting, numerical integration, simultaneous linear algebraic equations, matrix methods, probability and statistics, and ordinary differential equation in ocean-related engineering applications. Prerequisites: MATH 308 or concurrent enrollment; ENGR 111, ENGR 112.

MASE 265. Introduction to Geotechnical Engineering. (2-2). Credit 3. Physical properties of soils, classification systems, soil exploration, permeability, consolidation, compaction and shear strength; laboratory tests conducted to determine the physical and engineering soil properties needed for application in geotechnical engineering design. Prerequisites: MASE 221. Enrollment in MASE or (MASL).

MASE 341. Engineering Economics and Project Management. (3-0). Credit 3. Analysis of engineering economics and management, using costs and benefits of various engineering options; project scheduling covered in detail including PERT, GANT and CPM methods; additional topics include time value of money, cash flows, analysis techniques, interest rates, inflation, depreciation, optimization, statistics, network analysis and critical path programming. Prerequisites: Junior or senior classification. Enrollment in the MASE major degree sequence.

MAST 321. Industrial Diving Orientation. (2-2). Credit 3. Illustrates the realities of operating in the scientific, commercial and military diving disciplines; practice real world training scenarios involving multiple aspects of each of the three fields. Prerequisites: Must have a recreational scuba diver's physical examination; certification as a NAUI Advanced and NAUI Rescue Diver or equivalent; Divers Alert Network (DAN) diving accident insurance (or equivalent); junior or senior classification or approval of instructor.

MAST 330. Rescue Diver. (2-2). Credit 3. Relates skills necessary to perform basic life support, administer dive first aid, evacuate victim, assist/rescue other divers in water; illustrate proper dive planning; practice prevention and effective accident management. Prerequisites: Must have a recreational scuba diver's medical examination; certification as a NAUI Scuba Diver or equivalent; Divers Alert Network (DAN) diving accident insurance (or equivalent); junior or senior classification or approval of instructor.

MAST 357. Diving Leadership-Divemaster. (2-2). Credit 3. Examines divemaster level dive knowledge, dive leadership theory and application, presentation skills, physical diving skills, logistics/planning, and operational execution; develops a multi-environment capable diving leader. Prerequisites: Must have a recreational scuba diver's physical examination; certification as a NAUI Master Scuba Diver and a NAUI Scuba Rescue Diver or their equivalent (Divers with evidence of equivalent training and experience must pass the NAUI Master Scuba Diver and NAUI Scuba Rescue Diver written exams with minimum scores of 80% on each); documentation of diving experience with a minimum of 60 logged dives (dives shall be varied in environment, depth and experience); water skills and ability equivalent to that of a NAUI Assistant Instructor; current certifications in First Aid, CPR and Emergency Oxygen Administration; Divers Alert Network (DAN) diving accident insurance (or equivalent); junior or senior classification or approval of instructor.

MAST 457. Dive Leadership-Dive Instructor. (2-2). Credit 3. Apply effective methods to teach skin and scuba diving in compliance with NAUI instructional standards; evaluate instructional level dive knowledge, water skills and presentation performance in accordance with NAUI teaching standards. Prerequisites: Must have a recreational scuba diver's physical examination; certification as a NAUI Divemaster or equivalent (Divers with evidence of equivalent training and experience must pass the NAUI Master Scuba Diver and NAUI Scuba Rescue Diver written exams with minimum scores of 80% on each); documentation of diving experience with a minimum of 100 logged dives (dives shall be varied in environment, depth and experience); water skills and ability equivalent to that of a NAUI Instructor; current certifications in First Aid, CPR, AED and Emergency Oxygen Administration; Divers Alert Network (DAN) diving accident insurance (or equivalent); junior or senior classification or approval of instructor.

b. Change in Courses

MARB 401. Physiological Ecology of Marine Mammals.

Lab contact hours and semester credit hours

From: (3-0). Credit 3.

To: (3-3). Credit 4.

MARE 202. Marine Thermodynamics.

Course prerequisites

From: MATH 152 or MATH 161 or concurrent enrollment.

To: MARE 100; MATH 152 or MATH 161 or concurrent enrollment.

MARE 312. Diesel Propulsion Plants.

Course title

From: Diesel Propulsion Plants.

To: Marine Diesel Engines.

Course description

From: Comprehensive study of diesel propulsion plants, including direct-drive low speed diesels, geared medium speed diesels, waste heat recovery systems, engine reversing methods, and heavy fuel processing, Laboratory includes computer-aided parametric analysis of engine performance and use of a low-speed diesel propulsion plant simulator. Prerequisites: MARE 305, 313. Junior or senior classification or approval of instructor.

To: Comprehensive study of diesel engines, thermodynamics of air standard cycles, actual compression ignition engine cycles, emissions and emission controls, fuel injection systems and turbocharging systems, engine material properties, operational parameters including forces and temperatures resulting from combustion and inertial dynamics; laboratory includes computer-aided parametric analysis of engine performance and use of a low-speed diesel propulsion plant simulator. Prerequisites: MARE 305, MARE 313. Junior or senior classification or approval of instructor.

MARE 313. Heat Transfer.

Course prerequisites

From: MARE 261 and MARE 305 or concurrent enrollment.

To: MARE 202, MARE 261 and MARE 305 or concurrent enrollment.

MARE 451. Senior Design Project I.

Course prerequisites

From: Senior classification and approval of instructor.

To: MARE 206, MARE 242, MARE 306, MARE 309, MARE 311, MARE 312, MARE 313, PHYS 208 (or concurrent enrollment) and senior classification.

MASE 213. Principles of Materials Engineering.

Course prerequisites

From: ENGR 212, 221; PHYS 208; MATH 308 or con current registration.

To: CHEM 107, CHEM 117; MASE 221; MASE 216; PHYS 208; MATH 308 or concurrent registration.

MASE 214. Mechanics of Deformable Bodies.

Course prerequisites

From: ENGR 221; MATH 308 or con current registration.

To: MASE 221; MATH 308 or concurrent registration.

MASE 216. Principles of Thermodynamics.

Course prerequisites

From: ENGR 221 and MATH 251 or registration therein.

To: MASE 221 and MATH 251 or registration therein.

MASE 221. Engineering Mechanics: Statics.

Course prerequisites

From: MATH 251 or 253 or registration therein; PHYS 218; enrollment in MASL or MASE major degree sequence.

To: MATH 251 or MATH 253 or registration therein; ENGR 111; PHYS 218; enrollment in the MASL or MASE major degree sequence.

MASE 301. Hydrodynamics of Offshore Structures.

Course prerequisites

From: Junior or senior classification or approval of instructor, OCEN 300 or con current registration, MEEN 363, CVEN 345, MASE 310. Enrollment in MASE major degree sequence.

To: MASE 261, CVEN 345, MASE 363, OCEN 300 or concurrent registration. Junior or senior classification or approval of instructor. Enrollment in MASE major degree sequence.

MASE 319. Naval Architecture Design I.

Course prerequisites

From: CVEN 311, 345; ENGR 221, MASE 214. Junior or senior classification or approval of instructor. Enrollment in MASE major degree sequence.

To: CVEN 311, CVEN 345; MASE 221, MASE 214. Junior or senior classification or approval of instructor. Enrollment in MASE major degree sequence.

MASE 363. Dynamics and Vibrations.

Course prerequisites

From: MASE 221 or CVEN 221 with C or better; MATH 308 with C or better; MASE 310. Enrollment in MASE major degree sequence and junior or senior classification.

To: MASE 221 with a grade of C or better; MATH 308 with a grade of C or better; MASE 261. Junior or senior classification and enrollment in MASE major degree sequence.

MASE 401. Underwater Acoustics.

Course prerequisites

From: CVEN 311, MASE 336. Junior or senior classification or approval of instructor. Enrollment in MASE major degree sequence.

To: CVEN 311, CVEN 336. Junior or senior classification or approval of instructor. Enrollment in MASE major degree sequence.

MASE 405. Finite Element Analysis in Engineering Design.

Course prerequisites

From: CVEN 345, MASE 214, 310. Junior or senior classification or approval of instructor. Enrollment in MASE major degree sequence.

To: CVEN 346, MASE 214, MASE 261. Junior or senior classification or approval of instructor. Enrollment in MASE major degree sequence.

MASE 406. Capstone Design I.

Course prerequisites

From: ENGL 301 or concurrent enrollment. Students must have successfully completed all required junior-level MASE courses and be in their final academic year prior to graduation. Enrollment in MASE major degree sequence.

To: Students must have successfully completed all required 300-level engineering and technology courses listed in the MASE curriculum and be in their final academic year prior to graduation. Enrollment in MASE major degree sequence.

MASE 467. Offshore Random Process.

Course prerequisites

From: MASE 301, 310 and 459; or approval of instructor. Enrollment in MASE major degree sequence.

To: MASE 261, MASE 301, and MASE 363; or approval of instructor. Enrollment in MASE major degree sequence.

MART 201. Naval Architecture I.

Lecture contact hours and semester credit hours

From: (3-2). Credit 4.

To: (2-2). Credit 3.

Course prerequisites

From: MART 103.

To: MART 103 or approval of instructor.

MART 406. Marine Cargo Operations II.

Lecture contact hours and semester credit hours

From: (3-2). Credit 4.

To: (2-2). Credit 3.

Course prerequisites

From: Junior or senior classification, MART 312, 400 or approval of instructor.

To: Junior or senior classification, MART 200 and MART 312, or approval of instructor.

c. Change in Curricula

Department of General Academics

BS in Maritime Studies

BS in University Studies - Marine Environmental Law & Policy

BS in University Studies - Honors

Department of Marine Biology

BS in Marine Biology

BS in Marine Biology - License Option

BS in Marine Fisheries

Department of Marine Engineering Technology

BS in Marine Engineering Technology

BS in Marine Engineering Technology - License Option

Department of Marine Sciences

BS in Marine Sciences

BS in Marine Sciences - License Option

BS in Ocean and Coastal Resources

BS in Ocean and Coastal Resources - MMR 3+2 Program

Department of Maritime Administration

BS in Maritime Administration

Minor in Maritime Administration

Department of Maritime Systems Engineering

BS in Maritime Systems Engineering

Department of Maritime Transportation

BS in Marine Transportation

d. Special Consideration

Department of General Academics

Minor in Diving Technology and Methods

Request for a new minor

7. Special Consideration

College of Agriculture and Life Sciences

Department of Agricultural Leadership, Education, and Communications
Minor in Agricultural Science
Request to withdraw minor

College of Geosciences

Department of Geography
BS in Geography - Geographic Information Science Option
Request for a new stand-alone degree program (BS in Geographic Information Science and Technology) and request to discontinue the existing option

College of Geosciences

Department of Geography
BS in Spatial Sciences
Request to discontinue the program in the College of Geosciences only (SPSG)

College of Liberal Arts

Journalism Studies Program
University Studies Degree
Area of Concentration - Journalism Studies
Request for a new program

8. Tabled Items

New Courses

ANTH 402 – are the safety requirements in line with university guidelines?
EHRD 272 – catalog language? Sign-off from Computer Science? Is this really a college level course?
PETE 458 – catalog language? Overlap with GEOG 309 “Geography of Energy”? Too many weeks.

Change in Curriculum

College of Education and Human Development
Department of Educational Administration and Human Resource Development
BS in Technology Management
EHRD 272 tabled

9. Other Business

- C. Bergeron inquired about the reference to repeatable courses on the new course form and how to indicate repeatability changes on the change in course form.
- J. Jasperson requested clarification on core faculty versus support faculty on certificate and new program forms; S.Bednarz indicated a need to follow-up with Academic Affairs Committee.