

Members present: Tim Scott (Chair), College of Science; 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; Vatche Tchakerian (for Sarah Bednarz), College of Geosciences; Patricia Hurley (for Mike Stephenson), College of Liberal Arts; Glenn Jones, Texas A&M University at Galveston; Daniel Xiao, Texas A&M University Libraries; 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: Laura Olivarez and Thomas Strganac, Department of Aerospace Engineering; Sarah Ho, Department of Agricultural Leadership, Education and Communications; Nancy Street, Department of Communication, Sharon McCord and Shelby Schiller, Curricular Services; Sarah Ura, Department of Economics; David Byrd, College of Education and Human Development; Sally Kallina, Department of Electrical and Computer Engineering; Jennifer Wollock, Department of English; Dan Humphrey, Film Studies; Caitlin Henry, Department of Health and Kinesiology; Jose Villalobos, Department of Hispanic Studies; Doug Beck, Department of Mechanical Engineering; Marna Stepan, Department of Nuclear Engineering; Chrissy Wiederwohl, Department of Oceanography; Adam Smith, Department of Performance Studies; Bryan Maggard, Department of Petroleum Engineering; Scott Austin, Department of Philosophy; Susan Scott, Department of Recreation, Park and Tourism Sciences;

The Undergraduate Curriculum Committee recommends approval of the following:

1. The minutes of the November 8, 2013 meeting with minor corrections.
2. New Courses

ALEC 201. Foundations of Agricultural Leadership, Education and Communications. (2-0).

Credit 2. Survey of historical perspectives and future career opportunities in the field of agricultural leadership, education and communications; addresses undergraduate degree planner and departmental high-impact learning experiences; explores field of study standards for communication and publication; investigates learning preferences and academic support systems. Prerequisites: Freshman or sophomore classification; AGCJ, AGSC, ALED or USAL-LED majors.

AERO 413. Aerospace Materials Science. (3-0). Credit 3. Relationship between aerospace engineering material properties and microstructure; mechanical and thermal properties; environmental degradation; mechanical failure. Prerequisite: AERO 306.

ANTH 402. Archaeological Artifact Conservation. (3-3). Credit 4. Analysis of the treatments for artifacts of clay, stone, glass, wood, shell, bone, fiber and metal from archaeological excavations or ethnographic, and historic collections presented in an integrated series of lectures and hands-on laboratory experience. Prerequisite: Junior or senior classification or approval of instructor.

BIMS 201. Introduction to Phenotypic Expression in the Context of Human Medicine. (2-0).

Credit 2. Study of human genetics with respect to gene expression as it pertains to the cell cycle, development, cancer, aging and epigenetics; discussions and debates surrounding medical examples and case studies. Prerequisite: BIOL 112, CHEM 227; or approval of instructor.

COMM 322. Communication Tactics. (3-0). Credit 3. Examination of strategic use of communication tactics; analysis of new and digital media in organizational and public communication; skill development in strategic use of communication tactics including writing for new media, researching,

planning, integrating and evaluation effectiveness of traditional and new media tactics in strategic public communication. Prerequisite: COMM 323, junior or senior classification.

COMM 323. Strategic Communication. (3-0). Credit 3. Application of strategic communication tools to create and influence policy, to improve profit and non-profit strategic communication planning. Prerequisite: Junior or senior classification.

COMM 428. Women's Rhetoric. (3-0). Credit 3. Examination of the historical imbrication of masculinity and rhetoric in relation to women's participation in political life, reception of women's rhetoric in the public sphere, and remembrance and representation of women as rhetorical agents throughout history; consideration of women's rhetoric in various cultural arenas. Prerequisite: Junior or senior classification. Cross-listed with WGST 428.

COMM 434. Topics in Rhetorical Theory. (3-0). Credit 3. Application of rhetorical theories and concepts to rhetorical problems and methods; emphasis on the relationship between theory and practice. May be taken two times for credit. Prerequisite: Junior or senior classification.

ECON 484. Internship. Credit 1 to 3. Directed internship in an organization to provide on-the-job training and applied research experience with professionals in settings appropriate to economics and student professional interest. Maximum 3 hours can count toward major. Must be taken on a satisfactory/unsatisfactory basis. Prerequisites: Major in economics; 12 completed hours of economics including ECON 323; 2.5 cumulative GPA; 2.5 GPA in economic courses; pre-approval of the director of economics internship programs.

ENGL 303. Approaches to English Studies. (3-0). Credit 3. A writing intensive exploration of the methodologies and major topics of English studies. Prerequisite: ENGL 104 or registration therein; junior or senior classification or approval of instructor.

ENGL 304. Topics in Digital Research. (3-0). Credit 3. Topics in the studies of digital humanities; introduction to making/interpreting digital materials, the surrogates of books, paintings, etc., that form our cultural heritage, as well as digitally-born literature, art and culture; reflection on digital cultures/digital archives; theory and practice of creating and research digital resources. May be taken three times for credit. Prerequisite: Junior or senior classification or approval of instructor.

FILM 376 Philosophy, Film and Evil. (3-0). Credit 3. Application of philosophical methods and analyses to the medium of film; survey of various depictions and treatments of evil within the genre of science fiction; investigation of depictions and treatments of evil arising from consideration of human encounters with alien others. Prerequisite: Junior or senior classification. Cross-listed with PHIL 376.

FINC 463. Seminar in Commercial Banking. (3-0). Credit 3. Cases and problems on contemporary management challenges and problem-solving techniques in commercial banks. Prerequisite: Junior or senior classification and approval of instructor.

FINC 465. Seminar in Investment Banking. (3-0). Credit 3. Cases and problems on fundamentals of valuing publicly and privately held firms, underwriting public and private offerings of debt and equity securities, managing capital market risks, complying with SEC and NASD regulations and managing other financial services commonly offered by investment banks. Prerequisite: Junior or senior classification and approval of instructor.

HISP 371. Hispanic Religions. (3-0). Credit 3. Exploration of the history and practice of Hispanic religion, including spirit possession, evil eye, consumption of sacred substances, healing traditions, ex-

votos, relics, prophecy, omens, monsters, astrology, witchcraft, the Inquisition, festivals, pilgrimage, mystics and religious contributions of diverse ethnic groups. Prerequisite: Junior or senior classification or approval of instructor. Cross-listed with RELS 371.

PETE 458. Energy and Sustainability. (3-0). Credit 3. Energy resources and use with emphasis on long-term sustainability; considers fossil, nuclear and alternative energy sources, electricity and transportation, energy conversions, energy efficiency, energy security, energy policy and environmental impact.

PHIL 376 Philosophy, Film and Evil. (3-0). Credit 3. Application of philosophical methods and analyses to the medium of film; survey of various depictions and treatments of evil within the genre of science fiction; investigation of depictions and treatments of evil arising from consideration of human encounters with alien others. Prerequisite: Junior or senior classification. Cross-listed with FILM 376.

PHIL 464. Modern Jewish Thought and Philosophy. (3-0). Credit 3. An overview of modern Jewish thought and philosophy spanning Jewish European thinkers from the 18th century to the 20th century. Prerequisite: Junior or senior classification. Cross-listed with RELS 464.

RELS 371. Hispanic Religions. (3-0). Credit 3. Exploration of the history and practice of Hispanic religion, including spirit possession, evil eye, consumption of sacred substances, healing traditions, ex-votos, relics, prophecy, omens, monsters, astrology, witchcraft, the Inquisition, festivals, pilgrimage, mystics and religious contributions of diverse ethnic groups. Prerequisite: Junior or senior classification or approval of instructor. Cross-listed with HISP 371.

RELS 464. Modern Jewish Thought and Philosophy. (3-0). Credit 3. An overview of modern Jewish thought and philosophy spanning Jewish European thinkers from the 18th century to the 20th century. Prerequisite: Junior or senior classification. Cross-listed with PHIL 464.

SPMT 225. Practical Skills for Sport Professionals. (3-0). Credit 3. Introduction to the writing, communication and technical skills required to succeed in the sport industry; segmented into units based on different professions within the sport industry such as journalism, marketing, technology, public relations, organizational communication and law.

THAR 390. Theatre Practicum: Performance. (0-4). Credit 1. Participation as a performer in a departmental theatre production under supervision of theatre arts faculty; audition or application may be required. May be taken two times for credit. Prerequisite: Junior or senior classification or approval of instructor.

THAR 391. Theatre Practicum: Production. (0-4). Credit 1. Participation in the production team for a departmental theatre production under supervision of theatre arts faculty; audition or application may be required. May be taken two times for credit. Prerequisite: Junior or senior classification or approval of instructor.

THAR 392. Theatre Practicum: Design. (0-4). Credit 1. Participation in the design team for a departmental theatre production under supervision of theatre arts faculty; audition or application may be required. May be taken two times for credit. Prerequisite: Junior or senior classification or approval of instructor.

VIST 472. Digital Compositing. (3-0). Credit 3. History, mathematical foundations, techniques and applications used in combining two dimensional images for film, video and multimedia; includes theoretical foundations of the digital image, color spaces and corrections, matte techniques, keying,

rotoscoping, camera and object tracking, stereo compositing and process workflow. Prerequisite: VIST 271, junior or senior classification.

WGST 428. Women's Rhetoric. (3-0). Credit 3. Examination of the historical imbrication of masculinity and rhetoric in relation to women's participation in political life, reception of women's rhetoric in the public sphere, and remembrance and representation of women as rhetorical agents throughout history; consideration of women's rhetoric in various cultural arenas. Prerequisite: Junior or senior classification. Cross-listed with COMM 428.

3. Withdrawal of Courses

AERO 209. Aerospace Engineering Mechanics I.

AERO 211. Aerospace Engineering Mechanics.

AERO 213. Material Science for Aerospace Engineers.

AERO 305. Aerospace Engineering Laboratory II.

AERO 320. Numerical Methods.

4. Change in Courses

AERO 101. Principles of Aerospace Engineering.

Course title

From: Principles of Aerospace Engineering.

To: Introduction to Aerospace Engineering.

AERO 201. Introduction to Aerospace Engineering.

Course title

From: Introduction to Aerospace Engineering.

To: Introduction to Flight.

Lab contact hours

From: (3-0). Credit 3.

To: (3-1). Credit 3.

Course description and prerequisites

From: Basic aerodynamic phenomena and simplified theory; elementary aerospace vehicle performance and design. Prerequisites: Admission to upper division degree sequence in aerospace engineering; AERO 209 or registration therein.

To: Standard atmosphere; basic aerodynamic theory; isentropic flow; airfoil and wing descriptions; distributed load systems; static equilibrium; free body diagrams; wing structures; elementary aerospace vehicle performance; aircraft stability and control; experiential introduction to aerospace engineering. Prerequisites: Admitted to major degree sequence in aerospace engineering and completion of CBK courses with a grade of C or better; MATH 251 or MATH 253 or registration therein.

AERO 210. Aerospace Engineering Mechanics II.

Course title

From: Aerospace Engineering Mechanics II.

To: Introduction to Aerospace Mechanics.

Lab contact hours

From: (2-1). Credit 2.

To: (3-1). Credit 3.

Course description and prerequisites

From: Fundamentals of Newtonian mechanics; system of particles and rigid bodies; review of free body diagrams; rectilinear and curvilinear motion of particles; translational momentum; angular momentum; the effect of friction forces on motion; plane motion of rigid bodies; particle impact; situations involving variable mass.

Prerequisite: AERO 209 and MATH 308 or registration therein.

To: Planar kinematics; fundamentals of Newtonian mechanics; system of particles and rigid bodies; the effect of friction forces on motion and static equilibrium; rectilinear and curvilinear motion of particles; translational momentum; moments of inertia; angular momentum; planar motion of rigid bodies; impact dynamics; situations involving variable mass; introduction to orbital mechanics. Prerequisite: AERO 201; MATH 308 or registration therein.

AERO 212. Thermodynamics for Aerospace Engineers.

Course title

From: Thermodynamics for Aerospace Engineers.

To: Introduction to Aerothermodynamics.

Lecture and lab contact hours

From: (2-2). Credit 3.

To: (3-1). Credit 3.

Prerequisites

From: Admission to upper division degree sequence in aerospace engineering; AERO 209 or registration therein; MATH 308 or registration therein.

To: AERO 201 and MATH 251, or registration therein.

AERO 214. Aerospace Engineering Principles of Continuum Mechanics.

Course title

From: Aerospace Engineering Principles of Continuum Mechanics.

To: Introduction to Aerospace Mechanics of Materials.

Course description and prerequisites

From: Fundamental concepts and illustrative examples of conservation laws forming the framework upon which our description of engineering mechanics of deformable bodies is based; complex examination of the manner in which these principles are applied to selected traditional areas of engineering and their associated applications. Prerequisites: AERO 209; AERO 213 and MATH 308 or registration therein.

To: Fundamental concepts for deformable bodies (conservation of linear and angular momentum, kinematics and thermoelasticity); notions of stress and strain and illustrative examples for engineering applications; introduction to experimental methods and reporting, instrumentation and uncertainty analysis; measurement of elastic and thermal material properties. Prerequisites: AERO 201; AERO 210 and MATH 308 or registration therein.

AERO 220. Introduction to Aerospace Computation.

Lecture/lab contact hours and semester credit hours

From: (2-1). Credit 2.

To: (3-3). Credit 4.

Course description and prerequisites

From: Introduction to the basic skills required for developing computer programs that solve aerospace engineering problems; engineering and math background from previous and concurrent courses will serve as the theoretical basis and motivation for programming assignments; an integrated development environment will be used for code writing, compilation, debugging, and organization. Prerequisites: Admission to upper division degree sequence in aerospace engineering; AERO 209 or registration therein.

To: Review of basic skills required for developing computer programs and introduction to more advanced concepts in scientific computing to solve aerospace engineering problems; numerical and analytical methods of solving engineering problems involving curve fitting; interpolation and extrapolation; difference operators and differentiation; integration; solutions to linear and non-linear equations and differential equations with engineering applications. Prerequisites: AERO 201; MATH 308 or registration therein.

AERO 301. Theoretical Aerodynamics.

Course prerequisites

From: AERO 201, MATH 308; AERO 320 or registration therein.

To: AERO 201, AERO 212, AERO 220, MATH 308.

AERO 302. Aerospace Engineering Laboratory I.

Course title

From: Aerospace Engineering Laboratory I.

To: Aerospace Engineering Laboratory.

Course description and prerequisites

From: Demonstrates and complements material in courses on aerodynamics, structures and dynamics; basic testing techniques and use of computers. Prerequisite: AERO 301 or registration therein.

To: Intermediate and advanced topics in instrumentation, signal conditioning, data acquisition analysis for aerospace-related measurements; emphasis on technical reporting and data presentation; measurements of materials strain, deformation, pressure, velocity and aerodynamic forces; experimental investigations of static and dynamic response of structures; use of nonintrusive optical techniques; uncertainty analysis; linear regression, Fourier transform and power spectra; tests for statistical significance. Prerequisite: AERO 301, AERO 304, AERO 310 and ECEN 215, or registration therein.

AERO 303. High Speed Aerodynamics.

Course prerequisites

From: AERO 212 and AERO 301.
To: AERO 301.

AERO 304. Aerospace Structural Analysis I.

Course prerequisites

From: AERO 320 or registration therein; AERO 213, AERO 214, MATH 308.
To: AERO 214, AERO 220, MATH 308.

AERO 310. Aerospace Dynamics.

Course description and prerequisites

From: Linear theory of free and forced vibrations and dynamic response of single and multi-degree of freedom systems; frequency response of first and second order systems with instrumentation applications. Prerequisites: AERO 320 or registration therein; AERO 210, AERO 214, MATH 308.

To: Spatial kinematics; general motion of particles; Euler angles; Newton-Euler methods for translation and rotation of rigid bodies; work-energy and impulse momentum principles applied to aerospace systems; Linear theory of free and forced vibrations and dynamic response of single and multi-degree of freedom systems; frequency response of first and second order systems with instrumentation applications. Prerequisites: AERO 210, AERO 214, AERO 220, MATH 308.

AERO 401. Aerospace Vehicle Design I.

Course prerequisites

From: AERO 302, AERO 303, AERO 306, AERO 351, AERO 421.
To: AERO 302, AERO 303, AERO 306, AERO 321, AERO 351.

AERO 402. Aerospace Vehicle Design II.

Course prerequisites

From: AERO 305 and AERO 401.
To: AERO 401.

AERO 406. Polymer Nanocomposites and their Applications.

Course prerequisites

From: AERO 213.
To: AERO 413.

AERO 421. Dynamics of Aerospace Vehicles.

Course number

From: AERO 421.
To: AERO 321.

Course description

From: Aircraft static stability and control; longitudinal and lateral dynamic stability; general equations of motion; stability derivatives; response to control inputs.

To: Derivation of the nonlinear flight dynamics equations; linearization; aircraft static stability and control; longitudinal and lateral dynamic stability; development of state-space models; stability derivatives; longitudinal and lateral modes and transfer functions; flying qualities; elements of configuration design; response to control inputs.

AERO 422. Active Controls for Aerospace Vehicles.

Course prerequisites

From: AERO 421.

To: AERO 321.

AERO 423. Space Technology I.

Course title

From: Space Technology I

To: Orbital Mechanics.

Course prerequisites

From: AERO 421.

To: AERO 321.

AERO 424. Spacecraft Attitude Dynamics and Control.

Course prerequisites

From: AERO 421, AERO 423, or approval of instructor.

To: AERO 321.

AERO 425. Flight Test Engineering.

Course prerequisites

From: AERO 421.

To: AERO 321.

AERO 426. Space System Design.

Course prerequisites

From: AERO 306, AERO 351, AERO 421.

To: AERO 306, AERO 321, AERO 351.

AERO 428. Electromagnetic Sensing for Space-Borne Imaging.

Course prerequisites

From: AERO 306, AERO 351, AERO 421.

To: AERO 306, AERO 321, AERO 351.

AERO 430. Numerical Simulation.

Course prerequisites

From: AERO 320 or MATH 417.
To: AERO 220 or MATH 417.

AERO 440. Cockpit Systems and Displays.

Course prerequisites

From: AERO 421 or junior or senior classification in computer science.
To: AERO 321 or junior or senior classification in computer science.

BAEN 471. Introduction to Biochemical Engineering.

Course title

From: Introduction to Biochemical Engineering.
To: Bioreactor Engineering.

Course description and prerequisites

From: Fundamentals of microbial and enzyme processes; application of biochemical reaction kinetics, transport phenomena and chemical reactor design principles to design and analysis of enzyme reactors and fermentation systems. Prerequisite: Senior classification in engineering or approval of instructor.
To: Fundamentals of microbial and enzyme kinetics; basic biochemical reaction theory and reactor systems; heterogeneous reactions and transport considerations in enzyme and cell reactors, and immobilized systems; bioreactor design considerations in bioprocessing. Prerequisite: CHEN 282 or CHEN 382 or BAEN 302; junior or senior classification in engineering or approval of instructor. Cross-listed with CHEN 471.

CHEM 316. Quantitative Analysis.

Course description

From: Introduction to methods of chemical analysis; chemical equilibrium.
To: Methods of chemical analysis; chemical equilibrium; basic chemical instrumentation.

CHEM 318. Quantitative Analysis Laboratory.

Course description

From: Laboratory work consists of selected experiments in quantitative analysis designed to typify operations of general application; work is primarily volumetric with limited gravimetric experiments.
To: Laboratory work consists of selected experiments in quantitative analysis designed to typify operations of general analytical lab, including chemical analyses by volumetric and gravimetric methods; introduction to chemical measurements by spectroscopic and separations techniques and associated instrumentation.

CHEM 327. Physical Chemistry I.

Course prerequisites

From: MATH 152 or MATH 172; MATH 221, MATH 251 or MATH 253 encouraged.

To: MATH 152 or MATH 172; MATH 221, MATH 251 or MATH 253 encouraged;
PHYS 208; PHYS 218.

CHEM 464. Nuclear Chemistry.

Course description and prerequisites

From: Introduction to properties of the nucleus, particularly radioactivity, and the application of nuclear methods to solution of non-nuclear problems. Prerequisites: CHEM 315 and 328 or approval of instructor.

To: Properties of the nucleus; radioactivity; decay kinetics; nuclear masses; theory of radioactive decay; nuclear reactions; radiochemistry; nuclear energy; hands-on demonstrations; applications to non-nuclear problems. Prerequisites: CHEM 322 or CHEM 327; CHEM 315 or CHEM 316 recommended.

CHEN 471. Introduction to Biochemical Engineering.

Course title

From: Introduction to Biochemical Engineering.

To: Bioreactor Engineering.

Course description and prerequisites

From: Fundamentals of microbial and enzyme processes; application of biochemical reaction kinetics, transport phenomena and chemical reactor design principles to design and analysis of enzyme reactors and fermentation systems. Prerequisite: Senior classification in engineering or approval of instructor.

To: Fundamentals of microbial and enzyme kinetics; basic biochemical reaction theory and reactor systems; heterogeneous reactions and transport considerations in enzyme and cell reactors, and immobilized systems; bioreactor design considerations in bioprocessing. Prerequisite: CHEN 282 or CHEN 382 or BAEN 302; junior or senior classification in engineering or approval of instructor. Cross-listed with BAEN 471.

CVEN 221. Engineering Mechanics: Statics.

Course prerequisites

From: MATH 251 or MATH 253 or registration therein; PHYS 218.

To: MATH 251 or MATH 253 or registration therein; PHYS 218; admitted to major degree sequence in civil engineering.

CVEN 302. Computer Applications in Engineering & Construction.

Course prerequisites

From: ENGR 112; MATH 308 or registration therein.

To: ENGR 112; MATH 308 or registration therein; admitted to major degree sequence in civil engineering.

CVEN 303. Civil Engineering Measurement.

Course prerequisites

From: MATH 151.

To: MATH 151; admitted to major degree sequence in civil engineering.

CVEN 322. Civil Engineering Systems.

Course prerequisites

From: STAT 211 or registration therein; CVEN 302 or registration therein.

To: STAT 211 or registration therein; CVEN 302 or registration therein; admitted to major degree sequence in civil engineering.

ENGL 481. Senior Seminar.

Course prerequisites

From: 12 credits in English, including 3 at 300-level; senior classification.

To: ENGL 303; senior classification.

ENGR 270. Engineering Projects in Community Services.

Course prerequisites

From: ENGR 111 or approval of instructor; lower-level classification in an engineering major.

To: ENGR 111 or approval of instructor; freshman or sophomore classification in an engineering major.

ENGR 381. Engineering Scholars Program Seminar II.

Course title

From: Engineering Scholars Program Seminar II.

To: Engineering Honors Seminar III.

Course prerequisites

From: ENGR 281.

To: Certificate in engineering honors membership; ENGR 281.

ENGR 470. Engineering Projects in Community Service.

Course prerequisites

From: ENGR 111 or approval of instructor; upper-level classification in an engineering major.

To: ENGR 111 or approval of instructor; junior or senior classification in an engineering major.

ECEN 214. Electrical Circuit Theory.

Course prerequisites

From: PHYS 208; MATH 308 or registration therein; admission to upper level in an engineering major.

To: ENGR 111, ENGR 112, PHYS 208, CHEM 107, CHEM 117 with a grade of C or better; MATH 308 with a grade of C or better or registration therein; admission to electrical and computer engineering.

ECEN 215. Principles of Electrical Engineering.

Course prerequisites

From: PHYS 208; admission to upper level in an engineering major. Corequisite: MATH 308.

To: ENGR 111, ENGR 112, PHYS 208, CHEM 107, CHEM 117 with a grade of C or better; MATH 308 with a grade of C or better or registration therein; admission to an engineering major.

ECEN 248. Introduction to Digital Systems Design.

Course prerequisites

From: Admission to upper level in an engineering major.

To: ENGR 111, ENGR 112, PHYS 208, CHEM 107, CHEM 117, MATH 152 with a grade of C or better; admission to electrical and computer engineering.

ENTC 181. Manufacturing and Assembly Processes I.

Course prerequisites

From: ENDG 105 or ENGR 111 or registration therein.

To: ENDG 105 with a grade of C or better.

ENTC 206. Nonmetallic Materials.

Course prerequisites

From: CHEM 102 or CHEM 107.

To: CHEM 102 or CHEM 107 with a grade of C or better; manufacturing and mechanical engineering technology or industrial distribution major or approval of department.

ENTC 207. Metallic Materials.

Course prerequisites

From: CHEM 102 or CHEM 107.

To: CHEM 102 or CHEM 107 with a grade of C or better; manufacturing and mechanical engineering technology or industrial distribution major or approval of department.

ENTC 269. Embedded Systems in Development in C.

Course prerequisites

From: ENTC 219 or registration therein; engineering technology major.

To: ENTC 219 or registration therein; electronic systems engineering technology major.

ENTC 275. Mechanics for Technologies.

Course prerequisites

From: MATH 152; PHYS 218.

To: Grade of C or better in MATH 152 and PHYS 218; manufacturing and mechanical engineering technology major or approval of department.

ENTC 281. Manufacturing and Assembly Processes II.

Course prerequisites

From: ENTC 181 and ENTC 206.

To: Grade of C or better in ENTC 181 and ENTC 206; manufacturing and mechanical engineering technology major or approval of department.

ENTC 303. Fluid Mechanics and Power.

Course prerequisites

From: ENTC 275, PHYS 208, PHYS 218; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 275, PHYS 208 and PHYS 218; completion of CBK courses with a grade of C or better; manufacturing and mechanical engineering technology major.

ENTC 313. Industrial Welding Processes.

Course prerequisites

From: ENTC 181 and ENTC 207; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 181 and ENTC 207; completion of CBK courses with a grade of C or better; junior or senior classification in manufacturing and mechanical engineering technology major.

ENTC 315. Local-and-Metropolitan-Aero Networks.

Course prerequisites

From: ENTC 219, admitted to major degree sequence (upper level) in engineering technology.

To: ENTC 219; electronic systems engineering technology major.

ENTC 320. Quality Assurance.

Course prerequisites

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

To: STAT 211 with a grade of C or better; completion of CBK courses with a grade of C or better; junior or senior classification in manufacturing and mechanical engineering technology.

ENTC 329. Six Sigma and Applied Statistics.

Course prerequisites

From: ENTC 210 and MATH 152 with a grade of C or better, junior or senior classification.

To: Grade of C or better in ENTC 210 and MATH 152; completion of CBK courses with a grade of C or better; junior or senior classification in electronic systems engineering technology.

ENTC 333. Product Development.

Course prerequisites

From: Admission to upper level in electronics engineering technology.

To: Completion of CBK courses with a grade of C or better; junior or senior classification in electronic systems engineering technology.

ENTC 349. Microcontroller Architecture.

Course prerequisites

From: ENTC 219, ENTC 269; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 219 and ENTC 269; completion of CBK courses with a grade of C or better; electronic systems engineering technology major.

ENTC 350. Analog Electronics.

Course prerequisites

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

To: ENTC 211 with a grade of C or better; completion of CBK courses with a grade of C or better; junior or senior classification in electronic systems engineering technology.

ENTC 352. Electronics Testing.

Course prerequisites

From: ENTC 350; admitted to major degree sequence (upper-level) in engineering technology.

To: ENTC 350 with a grade of C or better; completion of CBK courses with a grade of C or better; junior or senior classification in electronic systems engineering technology.

ENTC 355. Electromagnetics and High Frequency Systems.

Course prerequisites

From: ENTC 211; PHYS 208; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 211 and PHYS 208; completion of CBK courses with a grade of C or better; junior or senior classification in electronic systems engineering technology.

ENTC 359. Electronic Instrumentation.

Course prerequisites

From: ENTC 349 and ENTC 350; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 349 and ENTC 350; completion of CBK courses with a grade of C or better; junior or senior classification in electronic systems engineering technology.

ENTC 361. Product Design and Solid Modeling.

Course prerequisites

From: ENTC 181; ENTC 206; ENTC 207; ENTC 275; admitted to major degree sequence (upper level) in engineering technology.

To: Grade of C or better in ENTC 181, ENTC 206, ENTC 207 and ENTC 275; completion of CBK courses with a grade of C or better; junior or senior classification in manufacturing and mechanical engineering technology.

ENTC 363. Mechanical Design Applications I.

Course prerequisites

From: ENTC 376; admitted to major degree sequence (upper-level) in engineering technology.

To: ENTC 376 with a grade of C or better; completion of CBK courses with a grade of C or better; junior or senior classification in manufacturing and mechanical engineering technology.

ENTC 369. Embedded Systems Software.

Course prerequisites

From: ENTC 349; junior or senior classification.

To: ENTC 349 with a grade of C or better; completion of CBK courses with a grade of C or better; junior or senior classification in electronic systems engineering technology.

ENTC 370. Thermodynamics for Technologists.

Course prerequisites

From: PHYS 218; admitted to major degree sequence (upper-level) in engineering technology.

To: PHYS 218 with a grade of C or better; completion of CBK courses with a grade of C or better; junior or senior classification in manufacturing and mechanical engineering technology.

ENTC 376. Strength of Materials.

Course prerequisites

From: ENTC 207 and ENTC 275; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 207 and ENTC 275; completion of CBK courses with a grade of C or better; junior or senior classification in manufacturing and mechanical engineering technology.

ENTC 380. Computer-Aided Manufacturing.

Course prerequisites

From: ENTC 181; MATH 151; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 181 and MATH 151; completion of CBK courses with a grade of C or better; junior or senior classification in manufacturing and mechanical engineering technology.

ENTC 383. Manufacturing Information Systems.

Course prerequisites

From: ENTC 380; admitted to major degree sequence (upper-level) in engineering technology.

To: ENTC 380 with a grade of C or better; completion of CBK courses with a grade of C or better; junior or senior classification in manufacturing and mechanical engineering technology.

ENTC 402. Inspection Methods and Procedures.

Course prerequisites

From: ENTC 281 and ENTC 376; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 281 and ENTC 376; completion of CBK courses with a grade of C or better; junior or senior classification in manufacturing and mechanical engineering technology.

ENTC 410. Manufacturing Automation and Robotics.

Course prerequisites

From: ENTC 361, ENTC 376, ENTC 380, ENTC 383, IDIS 300; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 361, ENTC 376, ENTC 380, ENTC 383 and IDIS 300; completion of CBK courses with a grade of C or better; junior or senior classification in manufacturing and mechanical engineering technology.

ENTC 412. Production and Inventory Planning.

Course prerequisites

From: ENTC 320, ENTC 380, ENTC 383, ISEN 302; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 320, ENTC 380, ENTC 383 and ISEN 302; completion of CBK courses with a grade of C or better; senior classification in manufacturing and mechanical engineering technology.

ENTC 415. Advanced Network Systems and Security.

Course prerequisites

From: ENTC 315; admitted to major degree sequence (upper-level) in engineering technology.

To: ENTC 315 with a grade of C or better; completion of CBK courses with a grade of C or better; junior or senior classification in electronic systems engineering technology.

ENTC 419. Engineering Technology Capstone I.

Course prerequisites

From: ENTC 369 and senior classification.

To: Grade of C or better in ENTC 369 and ENTC 333; completion of CBK courses with a grade of C or better; senior classification in electronic systems engineering technology.

ENTC 420. Engineering Technology Capstone II.

Course prerequisites

From: Senior classification; final semester of technical coursework and successful completion of ENTC 419 or approval of program director.

To: Completion of CBK courses with a grade of C or better; senior classification in electronic systems engineering technology; final semester of technical coursework and successful completion of ENTC 419 or approval of department.

ENTC 422. Manufacturing Technology Projects.

Course prerequisites

From: ENTC 429; completion of junior-level courses; must be taken semester of graduation; approval of instructor; admitted to major degree sequence (upper-level) in engineering technology.

To: ENTC 429 with a grade of C or better; completion of junior-level courses; must be taken semester of graduation; approval of instructor; completion of CBK courses with a grade of C or better; senior classification in manufacturing and mechanical engineering technology.

ENTC 429. Managing People and Projects in a Technological Society.

Course prerequisites

From: ISEN 302 or approval of instructor; admitted to major degree sequence (upper-level) in engineering technology.

To: ISEN 302 with a grade of C or better, or approval of instructor; must be taken during long semester prior to ENTC 422; completion of CBK courses with a grade of C or better; senior classification in manufacturing and mechanical engineering technology.

ENTC 452. Electronics Testing II.

Course prerequisites

From: ENTC 349 and ENTC 352; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 349 and ENTC 352; completion of CBK courses with a grade of C or better; junior or senior classification in electronic systems engineering technology.

ENTC 455. Wireless Transmission Systems.

Course prerequisites

From: ENTC 355; admitted to major degree sequence (upper-level) in engineering technology.

To: ENTC 355 with a grade of C or better; completion of CBK courses with a grade of C or better; junior or senior classification in electronic systems engineering technology.

ENTC 462. Control Systems.

Course prerequisites

From: ENTC 359 and ENTC 369; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 359 and ENTC 369; completion of CBK courses with a grade of C or better; junior or senior classification in electronic systems engineering technology.

ENTC 463. Mechanical Design Applications II.

Course prerequisites

From: ENTC 361 and ENTC 363; admitted to major degree sequence (upper-level) in engineering technology.

To: Grade of C or better in ENTC 361 and ENTC 363; completion of CBK courses with a grade of C or better; senior classification in manufacturing and mechanical engineering technology.

FILM 301. History of Film.

Course number

From: FILM 301.

To: FILM 299.

Course prerequisites

From: FILM 251; ENGL 104.

To: None.

FINC 409. Survey of Finance Principles.

Course description and prerequisites

From: Finance survey for non-business majors; financial markets, the investment banking process, interest rates, financial intermediaries and the banking system, financial instruments, time value of money concepts, and security valuation and selection. May not be used to satisfy degree requirements for majors in business. Prerequisites: ACCT 209 or ACCT 229; junior classification; for students other than business and agribusiness.

To: Finance survey for non-business majors; financial markets, the investment banking process, interest rates, financial intermediaries and the banking system, financial instruments, time value of money concepts, security valuation and selection, and international finance. May not be used to satisfy degree requirements for majors in business or agribusiness. Prerequisites: Junior or senior classification; for students other than business and agribusiness.

GEOG 205. Environmental Change.

Lab contact hours and semester credit hours

From: (3-2). Credit 4.

To: (3-0). Credit 3.

IDIS 300. Industrial Electricity.

Course prerequisites

From: PHYS 202 for IDIS majors or PHYS 208 for ENTC majors.

To: Industrial distribution or engineering technology major, junior or senior classification, PHYS 208 or PHYS 219; completion of CBK courses with a grade of C or better.

IDIS 303. Mechanical Power Transmission.

Course prerequisites

From: IDIS 300 or equivalent with approval of instructor; admitted to major degree sequence (upper-level) in industrial distribution.

To: Industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

IDIS 330. Sales Engineering.

Course prerequisites

From: IDIS 240; admitted to major degree sequence (upper-level) in industrial distribution.

To: IDIS 240; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

IDIS 340. Manufacturer Distributor Relations.

Course prerequisites

From: IDIS 240; admitted to major degree sequence (upper-level) in industrial distribution.

To: IDIS 240; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

IDIS 343. Distribution Logistics.

Course prerequisites

From: STAT 201 or STAT 303; junior or senior classification; admitted to major degree sequence (upper-level) in industrial distribution.

To: STAT 201, STAT 211 or STAT 303; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

IDIS 344. Distributor Information and Control Systems.

Course prerequisites

From: IDIS 340 and IDIS 343; admitted to major degree sequence (upper-level) in industrial distribution.

To: IDIS 343; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

IDIS 400. Industrial Automation.

Course prerequisites

From: IDIS 300; admitted to major degree sequence (upper-level) in industrial distribution.

To: IDIS 300; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

IDIS 403. Fluid Power Transmission.

Course prerequisites

From: IDIS 303; PHYS 202; admitted to major degree sequence (upper-level) in industrial distribution.

To: IDIS 303; PHYS 208 or PHYS 219; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

IDIS 420. Contemporary Topics in Electronics Distribution: Going Green.

Course prerequisites

From: IDIS 300 and IDIS 343; junior or senior classification; admitted to major degree sequence (upper-level) in industrial distribution.

To: IDIS 300; IDIS 343; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

IDIS 421. Healthcare Distribution Networks.

Course prerequisites

From: IDIS 343; junior or senior classification.

To: IDIS 343; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

IDIS 424. Purchasing Applications in Distribution.

Course prerequisites

From: IDIS 340 and IDIS 343; admitted to major degree sequence (upper-level) in industrial distribution.

To: IDIS 340; IDIS 343; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

IDIS 434. The Quality Process in Distribution.

Course prerequisites

From: IDIS 344; admitted to major degree sequence (upper-level) in industrial distribution.

To: IDIS 344; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

IDIS 444. Ethics and Leadership in Distribution.

Course prerequisites

From: IDIS 330; must be taken the last semester before graduation; admitted to major degree sequence (upper-level) in industrial distribution.

To: IDIS 330; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better

IDIS 445. International Sales and Marketing.

Course prerequisites

No Change

IDIS 464. Distributor Operations and Financial Management.

Course prerequisites

From: ACCT 209 and IDIS 343; admitted to major degree sequence (upper-level) in industrial distribution.

To: ACCT 209; IDIS 343; industrial distribution major, junior or senior classification; completion of CBK courses with a grade of C or better.

MATH 308. Differential Equations.

Course prerequisites

From: MATH 221, MATH 251, or MATH 253; knowledge of computer algebra system.

To: MATH 221, MATH 251, or MATH 253, or concurrent enrollment; knowledge of computer algebra system.

MATH 442. Mathematical Modeling.

Course prerequisites

From: MATH 304 or MATH 323; MATH 308 or equivalent.

To: MATH 304, MATH 309, MATH 311, or MATH 323; MATH 308 or equivalent.

MATH 470. Communications and Cryptography.

Course prerequisites

From: MATH 304 or MATH 323; CSCE 110, CSCE 111, CSCE 121, or CSCE 206; approval of instructor.

To: MATH 304, MATH 309, MATH 311, or MATH 323; CSCE 110, CSCE 111, CSCE 121, CSCE 206, or ENGR 112; approval of instructor.

NUEN 329. Analytical and Numerical Methods.

Lecture contact hours and semester credit hours

From: (4-0). Credit 4.

To: (3-0). Credit 3.

Course prerequisites

From: MATH 311 and NUEN 301.

To: MATH 309 and NUEN 301.

THAR 102. Script Analysis.

Course description

From: Introduction in analyzing dramatic structure as represented in European and American plays; focus on the art of the playwright. Majors and minors only.

To: Introduction in analyzing dramatic structure as represented in European and American plays; focus on the art of the playwright.

THAR 290. Theatre Practicum.

Course title

From: Theatre Practicum.

To: Theatre Practicum: Crew.

Course description

From: Participation in departmental program of theatre production under supervision of theatre arts faculty. May be taken six times.

To: Participation in the run crew for a departmental theatre production under supervision of theatre arts faculty; audition or application may be required. May be taken two times for credit.

THAR 345. Scene Design.

Course prerequisites

From: THAR 102, THAR 135 and THAR 145 or approval of the instructor.

To: THAR 102, THAR 135 and THAR 245, or approval of the instructor.

THAR 355. Costume Design.

Course prerequisites

From: THAR 102, THAR 145 or approval of instructor.

To: THAR 102, THAR 245, or approval of instructor.

THAR 360. Lighting Design.

Course prerequisites

From: THAR 102, THAR 135 and THAR 145 or approval of instructor.

To: THAR 102, THAR 135 and THAR 245, or approval of instructor.

THAR 420. Directing I.

Course title

From: Directing I.

To: Directing.

Course prerequisites

From: THAR 102, THAR 110, THAR 145, THAR 301, THAR 382, or approval of instructor.

To: THAR 102, THAR 110, THAR 245, THAR 381, or approval of instructor.

VIBS 204. Food Toxicology and Safety.

Course title

From: Food Toxicology and Safety.

To: Fundamentals of Food Toxicology and Safety.

Course prerequisites

From: Sophomore or higher classification.

To: Sophomore classification and CHEM 101.

VTPB 303. Medical Communication in the International Community.

Lecture contact hours and semester credit hours

From: (3-0). Credit 3.

To: (2-0). Credit 2.

WFSC 405. Urban Wildlife and Fisheries.

Course prerequisites

From: WFSC 201; RENR 205 and RENR 215; junior or senior classification.

To: RENR 205; junior or senior classification.

5. Change in Curriculum

College of Agriculture and Life Sciences

Department of Agricultural Leadership, Education, and Communications

BS in Agricultural Leadership and Development

BS in University Studies - Leadership Studies

Department of Recreation, Park and Tourism Sciences

BS in Community Development

Department of Wildlife and Fisheries Science

BS in Wildlife and Fisheries Sciences - Aquatic Ecology and Conservation Option

BS in Wildlife and Fisheries Sciences - Vertebrate Zoology Option

BS in Wildlife and Fisheries Sciences - Wildlife Ecology and Conservation Option

College of Architecture

BS in University Studies – Honors

Minor in Sustainable Architecture and Planning

College of Education and Human Development

Department of Educational Administration and Human Resource Development

B.S. in Technology Management

Dwight Look College of Engineering

Department of Aerospace Engineering

BS in Aerospace Engineering

Minor in Aerospace Engineering

Department of Engineering Technology and Industrial Distribution

BS in Engineering Technology - Manufacturing & Mechanical Engineering

Technology Option

Department of Industrial and Systems Engineering

BS in Industrial Engineering

Department of Mechanical Engineering

BS in Mechanical Engineering

Department of Nuclear Engineering

BS in Nuclear Engineering

BS in Radiological Health Engineering

College of Geosciences

BS in University Studies – Geography

College of Liberal Arts

Department of Communication

Minor in Communication

Department of Economics

BA in Economics

BA in Economics - BUSH MIA 3+2 Program (BIA)

BA in Economics - BUSH MPS 3+2 Program (BPS)

BS in Economics

BS in Economics - BUSH MIA 3+2 Program (BIA)

BS in Economics - BUSH MPS 3+2 Program (BPS)

Department of English

BA in English

BA in English - Middle School Teachers

Department of Performance Studies

BA in Music

BA in Theatre Arts

Minor in Theatre Arts

College of Science

BS in University Studies - Mathematics for Business

BS in University Studies - Mathematics for Pre-Professionals

Department of Chemistry
BA in Chemistry
Biological Chemistry Track
Chemical Education Track
Environmental Chemistry Track
BS in Chemistry
Biological Chemistry Track
Environmental Chemistry Track

Department of Mathematics
BA in Applied Mathematical Sciences
Actuarial Science Track
Biological Science Track
Computational Science Track
Economics Track
Statistics Track
5 Year Fast Track
BA in Mathematics
BA in Mathematics - 5 Year Fast Track
BS in Mathematics
BS in Mathematics - 5 Year Fast Track

6. Texas A&M University at Galveston

a. New Courses

MARA 493. International Maritime Management Experience. (3-0). Credit 3. Combination of classroom and two week international travel emphasizing cultural and historical aspects of maritime industry; direct contact with managers and regulators in the international maritime industry; examination of different management styles, business practices and regulatory approaches.

MARS 428. Coastal Development and Human Health. (2-2). Credit 3. Exploration of public environmental health issues associated with urbanization in coastal areas; population pressures on coasts, infectious and chronic disease, the natural and built environment, toxicology, sanitation, forms and media of pollution; application of environmental health science to coastal zone management. Prerequisites: CHEM 102 and MARS 210, or equivalents; junior or senior classification or approval of instructor; CHEM 383 and MARS 325 recommended but not required.

MAST 352. Traditional Maritime Tools. (3-0). Credit 3. Examine and use traditional 17th-19th century shipbuilding and carpentry tools; experience through practical use the function and capabilities of tools used to build wooden historic sailing vessels; complete at least two individual projects and two group projects to develop and test skills learned in class. Prerequisites: Junior or senior classification and approval of instructor.

b. Change in Courses

MARS 305. Paleontology.

Lecture contact hours
From: (2-3). Credit 3.
To: (3-3). Credit 4.

Course title

From: Paleontology.

To: Environmental Micropaleontology.

Course description

From: Analysis of history of life and processes controlling it; study of group of organisms important in the marine fossil record; applications of paleontology to geologic problems. Field trips required.

To: Major animal, plant and protist microfossils groups, ecology, biostratigraphy, paleoenvironmental and paleoclimatic utility, primary preparation techniques, basic microscopy, research design and dissemination; coastal foraminifera, thecamoebians and ostracods emphasized. Field trips required.

c. Special Consideration

Texas A&M University at Galveston

Department of Marine Sciences

University Studies Degree

Area of Concentration - Oceans and One Health

Request for a new concentration

Department of Maritime Administration

BS in Maritime Administration and Master of Maritime Administration and Logistics

Request for a 5 year degree program

7. Special Consideration

College of Agriculture and Life Sciences

Department of Ecosystem Science and Management

Minor in Spatial Sciences

Request for a new minor

Department of Wildlife and Fisheries Sciences

BS in Wildlife and Fisheries – Wildlife and Fisheries 3+2 Program

Request to discontinue program

Mays Business School

Department of Finance

Certificate in Investment Banking

Request for a new certificate program

Certificate in Trading, Risk and Investments

Request for a new certificate program

College of Geosciences

Environmental Programs in Geosciences

Minor in Climate Change

Request for a new minor

Department of Oceanography
BS in Environmental Geoscience and MS in Oceanography
Request for a 3+2 degree program

College of Liberal Arts

Department of Communication
Health Communication Certificate
Request for a new certificate program

Strategic Communication Certificate
Request for a new certificate program

Department of Economics
BS in Economics and MS in Economics
Request for a 5 year degree program

8. Texas A&M University at Qatar

a. New Courses

PETE 336. Petroleum Technical Presentations I. (0-3). Credit 1. 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 presentation judged by petroleum industry professionals. Prerequisites: ENGL 210; junior or senior classification; petroleum engineering majors only; or approval of department head.

PETE 436. Petroleum Technical Presentations II. (0-3). Credit 1. 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 at the departmental student paper contest held during the same academic year. Prerequisites: PETE 336; senior classification; petroleum engineering majors only; or approval of department head.

b. Change in Course

ECEN 210. Computer Programming and Algorithms

Lab contact hours and semester credit hours
From: (3-1). Credit 3.
To: (3-3). Credit 4.

c. Change in Curricula

Texas A&M University at Qatar
Chemical Engineering
BS in Chemical Engineering

Texas A&M University at Qatar
Electrical Engineering
BS in Electrical Engineering

Texas A&M University at Qatar
Petroleum Engineering
BS in Petroleum Engineering