EET: ELECT ENGINEERING TECH

Courses

	Credit(s)	Contact	Lab

EET 1015C. FUNDAMENTALS OF DC CIRCUITS. 3 2 2

FUNDAMENTALS OF DC CIRCUITS Prerequisite: EET 1214C and either MTB 1329 or MAC 1105 or department approval. Fundamental course in DC electric circuits. Prepares student for EET 1025C and subsequent advanced courses. Classroom lectures supplemented with laboratory projects to provide student with hands-on experience in use of electronics test equipment and in proper techniques for data measurements/interpretation, trouble-shooting and orderly documentation of test results and conclusions. (Special Fee: $93.00).

EET 1025C. FUNDAMENTALS OF AC CIRCUITS. 3 2 2

FUNDAMENTALS OF AC CIRCUITS Prerequisite: EET 1015C or department approval. Fundamental course in AC and transient-response networks designed to prepare students for advanced courses. Classroom lectures supplemented with laboratory projects to provide student with practical hands-on experience in use of electronics test equipment and in proper techniques for data measurements/interpretation, trouble-shooting and orderly documentation of test results and conclusions. (Special Fee: $84.00).

EET 1084C. FUNDAMENTALS OF ELECTRONICS. 3 2 2

FUNDAMENTALS OF ELECTRONICS This course introduces the fundamentals, terminology, and applications used in the electronics industry. Topics include DC and AC circuit theory principles, electronic components, transistor circuits, power supplies, electronic and digital logic circuits and techniques, instruments and measurements.

EET 1214C. INTRODUCTION TO ENGINEERING TECHNOLOGY. 3 2 2

INTRODUCTION TO ENGINEERING TECHNOLOGY Prerequisite or corequisite: MTB 1329, MGF 1130, MAC 1105 or higher, EGN 2045 An introductory course involving laboratory environment learning. Students will learn to identify electronic components, use computer circuit simulator, solder and desolder components, and use the basic lab instruments for testing and troubleshooting. Students will be required to build a kit and demonstrate functionality and workmanship. (Special Fee: $90.00).

EET 2035C. ELECTRICAL CIRCUITS. 3 2 2

ELECTRICAL CIRCUITS Prerequisite: EET 1214C and MAC 1140 or department approval. This course introduces students to the principles and techniques required to analyze electrical circuits. Students will gain an in-depth understanding and hands-on experience with circuit simulator and laboratory projects. (Special Fee: $97.00).

EET 2036C. PRINCIPLES OF ELECTRIC CIRCUITS. 3 2 2

PRINCIPLES OF ELECTRIC CIRCUITS Prerequisite: EET 1214C and either MTB 1329 or MAC 1105 Fundamental course in DC and AC circuits designed to prepare students for advanced courses in electrical and electronic circuits. A study of electrical laws, theorems, components, and networks used in DC and AC circuit applications. (Special Fee: $104.00).

EET 2141C. SEMICONDUCTOR DEVICES AND CIRCUITS. 3 2 2

SEMICONDUCTOR DEVICES AND CIRCUITS Prerequisite: EET 2036C or EET 1025C or EET 2035C. First of two-course sequence in electronic semiconductor circuits. Provides basic understanding of electronic circuits which utilize semiconductor diode and transistor circuit elements. Introduces concept of circuit simplification via idealizations, approximations and overview of semiconductor devices and their electrical properties. Emphasis on circuit analysis and various small-signal, linear and power applications utilizing diodes and transistors. Students assigned appropriate hands-on laboratory projects to expose them to practical considerations in implementing various semiconductor circuits analyzed in the classroom.

EET 2142C. INTEGRATED CIRCUITS. 3 2 2

INTEGRATED CIRCUITS Prerequisite: EET 2141C Second of two-course sequence in electronic semiconductor circuits. Covers more complex applications, including field-effect transistor circuitry, amplitude/phase shift response of transistor amplifiers, integrated circuits, negative and positive feedback circuits, voltage regulators, operational amplifiers, spectrum analysis and harmonic distortion. Provides hands-on experience via assigned laboratory projects to supplement classroom lectures. Familiarity gained with array of commercial test equipment frequently used in industrial development and testing facilities. (Special Fee: $90.00).

EET 2325C. RF COMMUNICATION. 3 2 2

RF COMMUNICATION Prerequisite: EET 2141C An introductory course that enables students to gain a technical working knowledge of electronic communication. It includes a broad range of topics such as AM and FM transmission and reception, transmission lines, Smith Chart, Active and Passive Filters, LC filters, SAW filters, Crystal filters, Oscillators, RF detectors, and Mixers. Classroom lectures are supplemented with laboratory projects to provide hands-on experience in the installation and theory of operation of the RF systems. (Special Fee: $93.00).

EET 2330. INTRODUCTION TO TRANSMISSION LINES. 3 3 0

INTRODUCTION TO TRANSMISSION LINES Prerequisites: MTB 1329 & EET 1214C This is a laboratory-orientated course designed to familiarize the students with the fundamentals of transmission lines. The student is expected to become familiar with the important ideas and concepts of Fiber Optics, Coaxial cables, and Ethernet cables to gain an understanding of the range of their current applications on an introductory level.

EET 2365C. WIRELESS AND DATA COMMUNICATIONS. 3 2 2

WIRELESS AND DATA COMMUNICATIONS Prerequisite: CET 2113C or CET 2114C and EET 2141C The second in a two-course sequence in communications, this course covers the following topics: multiplexing and demultiplexing for analog and digital signals, transmission of digital data, transmission lines, antennas and wave propagation, microwave communication and applications, and satellite communication. Laboratory projects will provide the hands-on experience that will supplement classroom lectures. (Special Fee: $51.00).

EET 2930. SELECTED TOPICS IN ELECTRONICS ENGINEERING TECHNOLOGY.   1-3   variable

SELECTED TOPICS IN ELECTRONICS ENGINEERING TECHNOLOGY Prerequisite: Departmental approval. Selected topics in electronics engineering based on the needs and areas of the class and professor. May include laboratory and/or field work as part of the class. Multiple credit course. May be repeated for a maximum 3 credits, but grade forgiveness cannot be applied.

EET 2941. INTERNSHIP EXPLORATION IN ELECTRONIC ENGINEERING.   3   3   0

INTERNSHIP EXPLORATION IN ELECTRONIC ENGINEERING Prerequisite: Satisfactory completion of EET 2036C or EET 2035C or EET 1025C and CET 2113C or CET 2114C; and Internship Office approval. The Program Director/Program Chair/Program Coordinator or Internship Placement Office has the discretion to provide override approval as it relates to the waiver of required program/discipline-related courses. This course is a planned work-based experience that provides students with supervised career exploration activities and/ or practical experiences. Each earned credit of internship requires a minimum of 80 clock hours of work. Multiple credit course. May be repeated for credit, but grade forgiveness cannot be applied. (Internship Fee: $10.00).

EET 2942. INTERNSHIP IN ELECTRONICS ENGINEERING TECHNOLOGY.   1-4   variable

INTERNSHIP IN ELECTRONICS ENGINEERING TECHNOLOGY Prerequisites: Satisfactory completion of all mandated courses in Reading, Mathematics, English, and English for Academic Purposes; and EET 2036C or EET 2035C or EET 1025C, CET 2114C or CET 2113C, EET 2141C, and ETS 2210C. The Program Director/Program Chair/ Program Coordinator or Internship Placement Office has the discretion to provide override approval as it relates to the waiver of required program/discipline-related courses. This course is a planned work-based experience that provides students with an opportunity to fine- tune skill sets learned in coursework and enhance workplace skills through a supervised practical experiences related to their career objectives. Each earned credit of Internship requires a minimum of 80 clock hours of work. Multiple credit course. May be repeated for credit, but grade forgiveness cannot be applied. (Internship Fee $10.00).

EET 3048. ELECTROMAGNETIC FIELDS.   3   3   0

ELECTROMAGNETIC FIELDS Prerequisites: Minimum grade of C in PHY 2049C and EGN 3428 This course introduces the concepts of steady and dynamic electromagnetic fields that are important in the design and analysis of electrical and communication systems, wireless applications, high-frequency radiation sources and microwave devices. Minimum grade of C required if used to satisfy Electrical and Computer Engineering Technology, B.S. Degree requirement.

EET 3081C. CIRCUIT ANALYSIS I.   3   3   1

CIRCUIT ANALYSIS I Prerequisite: Minimum grade of C in MAC 2312 and CET 3464C This course introduces students to the principles and techniques required to analyze electrical circuits. Students will gain an in-depth understanding and hands-on experience with circuit simulator and laboratory projects. (Special Fee: $82.00).

EET 3086C. CIRCUIT ANALYSIS.   4   3   2

CIRCUIT ANALYSIS Prerequisites: EET 1025C or EET 1036C or EET 2035C or EET 2036C or minimum grade of C in EET 3081C, and minimum grades of C in EGN 3046 or minimum grade of C in EGN 3428, and minimum grade of C in CET 3464C An advanced course using differential and integral calculus and transform methods to analyze steady-state and transient responses of electrical networks in time and frequency domains. Circuit simulator and laboratory projects will provide an in-depth understanding and hands-on experience. A minimum grade of C is required if used to satisfy Electrical and Computer Engineering Technology, B.S. Degree requirement. (Special Fee: $82.00).

EET 3329C. COMMUNICATION SYSTEMS.   3   2   2

COMMUNICATION SYSTEMS Prerequisite: A minimum grade of C in EGN 3428 and EET 3086C A fundamental course in communication systems theory. Topics include relationship between time and frequency domain signals, comparison of different modulators and demodulators designs, bandwidth consideration, effect of noise and performance analysis of different communication systems. Minimum grade of C required if used to satisfy Electrical and Computer Engineering Technology, B.S. Degree requirement. (Special fee: $107.00).

EET 3716. LINEAR SYSTEMS AND SIGNALS.   3   3   0

LINEAR SYSTEMS AND SIGNALS Prerequisite: Minimum grade of C in CET 3464 and EET 3086C This fundamental technology course bridges the gap between analog and digital worlds. Topics include time and frequency domain analysis of continuous and discrete-time systems, transformation techniques, and sampling theory. Minimum grade of C required if used to satisfy Electrical and Computer Engineering Technology, B.S. Degree requirement.

EET 3732. LINEAR CONTROL SYSTEMS.   3   3   0

LINEAR CONTROL SYSTEMS Prerequisites: Minimum grade of C in CET 3464 and EET 3086C This course introduces the principles of Control Systems with an emphasis on Linear Control Systems. Topics include characterization, design, and mathematical techniques required to analyze linear control systems. Minimum grade of C required if used to satisfy Electrical and Computer Engineering Technology, B.S. Degree requirement.

EET 4158C. LINEAR INTEGRATED CIRCUITS AND SYSTEMS.   3   3   1

LINEAR INTEGRATED CIRCUITS AND SYSTEMS Prerequisite: EET 1141C and a minimum grade of C in EET 3086C An in-depth course of Operational Amplifier and its applications. Topics include study of amplifier concepts, analysis of ideal and linear operational amplifiers under DC and AC conditions, and discussion of important applications. Circuit simulator and laboratory projects will provide an in-depth understanding and hands-on experience. Minimum grade of C required if used to satisfy Electrical and Computer Engineering Technology, B.S. Degree requirement. (Special Fee: $41.00).

EET 4328. WIRELESS COMMUNICATION.   3   3   0

WIRELESS COMMUNICATION Prerequisites: EET 2325C and minimum grades of C in EET 3086C and EGN 3443 This course focuses on the analysis of wireless signals, deterioration due to diffraction and noise, ways to improve signal quality, wireless signal modulation, multiple access techniques, and an overview of current wireless standards, wireless networking, and cellular concepts. Minimum grade of C required if used to satisfy Electrical and Computer Engineering Technology, B.S. Degree requirement.

EET 4336. ANTENNA AND RADAR SYSTEM DESIGN. 3 3 0

ANTENNA AND RADAR SYSTEM DESIGN Pre-requisite: Minimum grade of C in EET 3329C This course examines concepts of radar & antenna theories and systems. Topics include radar range equation, radar cross-section calculations, random processes and noise, array antennas, beam steering, Doppler and range processing, FM and CW systems, pulse compression, SAR, clutter, evaluation of various antennas, and an in-depth understanding and analysis of antenna and Radar-related topics through term projects. Minimum grade of C required if used to satisfy Electrical and Computer Engineering Technology, B.S. Degree requirement.

EET 4359C. DIGITAL COMMUNICATION. 3 2 2

DIGITAL COMMUNICATION Prerequisites: EET 2325C and minimum grades of C in EET 3086C and EGN 3443 An advanced communication course introducing students to digital modulation and demodulation schemes, quantification of channel noise, signal coding schemes, multiple-access and spread spectrum techniques. Minimum grade of C required if used to satisfy Electrical and Computer Engineering Technology, B.S. Degree requirement.

EET 4388. LASER SATELLITE AND SPACE COMMUNICATION. 3 3 0

LASER SATELLITE AND SPACE COMMUNICATION Prerequisite: Minimum grade of C in EET 3329C or ETS 4256C An introduction and overview of laser satellite communication principles and technologies for unguided, free-space beam propagation. Special emphasis is placed on highlighting the differences, as well as similarities to RF communications and other laser systems, and design issues and options relevant to future laser communication systems. Minimum grade of C required if used to satisfy Electrical and Computer Engineering Technology, B.S. Degree requirement.

EET 4390C. ACOUSTICS AND AUDIO TECHNOLOGY. 4 2 2

ACOUSTICS AND AUDIO TECHNOLOGY Prerequisite: Minimum grade of C in EGN 3428C A study of the principles of acoustics and its applications in audio technology, with emphasis of physical acoustics and electro acoustical transducers.

EET 4391C. AUDIO ELECTRONICS. 3 2 2

AUDIO ELECTRONICS Prerequisite: EET 1141C and minimum grade of C in EET 3086C A study of specialized electronic circuitry for audio applications, and the application of several electronic components including vacuum tubes, FETs and optocouplers in audio signal processing devices and networks.

EET 4392C. DIGITAL AUDIO SIGNAL PROCESSING. 4 2 2

DIGITAL AUDIO SIGNAL PROCESSING Prerequisite: Minimum grade of C in EET 4190C A study of the audio applications of digital signal processing. Topics include discussion of different analog-to-digital and digital-to-analog procedures, audio equalizers and filters, room simulation and dynamic range control for the audio signals, and different digital audio formats. Computer exercises, MATLAB-based projects, and implementation of algorithms and applications applied to audio processing are emphasized.

EET 4397C. AUDIO SOFTWARE AND PROGRAMMING APPLICATIONS. 3 2 1

AUDIO SOFTWARE AND PROGRAMMING APPLICATIONS Prerequisite: Minimum grade of C in CET 3464 An introduction and projects based course using the latest digital audio workstations editing programs and MIDI programming to develop original projects for recording, editing, mixing, and mastering. Audio streams, digital audio file formats, time and frequency domain programming, algorithmic sound synthesis, user interface design principles and good software development practices are emphasized.

EET 4910. SENIOR DESIGN PROPOSAL. 1 1 0

SENIOR DESIGN PROPOSAL Prerequisite: Department Approval Senior students will form groups and conduct supervised research for senior design project ideas. Design groups will create a project website and document a plan for the implementation of the approved project. Design groups will write a formal design proposal report and present their proposal in front of a combined technical and non-technical audience.

EET 4950. SENIOR DESIGN PROJECT. 3 3 0

SENIOR DESIGN PROJECT Prerequisite: EET 4910 or Department approval Senior students will utilize the knowledge and experience gained in the previous courses to work in groups on their proposed engineering projects. Students will create a website to show their design progress and follow a timeline to implement and present their projects. Students will also write a professional design project report. Minimum grade of C required if used to satisfy Electrical and Computer Engineering Technology, B.S. Degree requirement.