ELECTRICAL ENGINEERING TECHNOLOGY (EET)

EET 1010 DC Circuits
[0-4 credit hours]
This course constitutes an introduction to electrical components, direct current circuit analysis, circuit theorems and basic electrical measurements. An introduction to sinusoidal waveforms, complex numbers, phasors and Pspice is also included.
Prerequisites: MATH 1330 (may be taken concurrently) with a minimum grade of D- or MATH 1340 (may be taken concurrently) with a minimum grade of D-
Corequisites: MATH 1330
Term Offered: Spring, Fall

EET 1020 AC Circuits
[4 credit hours]
This course involves transient analysis of first order, reactive DC circuits and steady state analysis of reactive circuits under AC conditions. Frequency response, three-phase analysis, oscilloscope usage and PSpice simulation methods are included.
Prerequisites: EET 1010 with a minimum grade of D- and (MATH 1330 with a minimum grade of D- or MATH 1340 with a minimum grade of D-)
Term Offered: Spring

EET 1410 Electrical Drafting
[3 credit hours]
Use of electrical and electronic symbols, familiarization with industry standards and codes and familiarization with different kinds of schematics and other electrical drawings. Course work performed on personal computers using CAD software.
Term Offered: Spring

EET 2010 Electronic Principles
[0-4 credit hours]
Semiconductor devices and applications with emphasis on power supplies and amplifiers. AC/DC analysis of small-signal amplifiers using both bipolar junction and field effect transistors in various biasing configurations.
Prerequisites: EET 1020 with a minimum grade of D- and EET 1010 with a minimum grade of D-
Term Offered: Spring, Fall

EET 2020 Electronic Device Applications
[4 credit hours]
This course covers principles and applications of electronic circuits and devices such as oscillators, power supplies, thyristors regulators and op amps.
Prerequisites: EET 2010 with a minimum grade of D- and EET 1010 with a minimum grade of D-
Term Offered: Spring, Fall

EET 2210 Digital Logic Fundamentals
[0-4 credit hours]
This course covers the fundamentals of digital logic circuits. Topics include number systems, logic gates, Boolean algebra, logic simplification, Karnaugh maps, adders, multipliers, multiplexers and decoders. Elementary digital circuits including flip-flops, counters, shift registers, memory devices, programmable logic devices and integrated circuits are also covered.
Prerequisites: EET 1010 with a minimum grade of D- or EET 2420 with a minimum grade of D-
Term Offered: Spring, Fall

EET 2230 Assembly Language Programming
[0-4 credit hours]
The study of machine and assembly language programming and circuit and system applications. Microprocessor architecture and organization are also presented.
Prerequisites: (EET 2210 with a minimum grade of D- and CSET 1100 with a minimum grade of D-)
Term Offered: Spring, Fall

EET 2410 Mechatronics I
[0-4 credit hours]
A study of programmable controllers emphasizing program development, logic development and troubleshooting. Emphasis on relays, timers, counters, integer math and scan-dependent programming. Factory floor control concepts are stressed.
Prerequisites: EET 2210 with a minimum grade of D-
Term Offered: Spring, Summer, Fall

EET 2420 Electrical Instrumentation Laboratory
[1 credit hour]
Provides an opportunity for freshman Computer Science and Engineering Technology students to gain laboratory experience with basic electrical instrumentation and basic computer components.
Term Offered: Spring, Fall

EET 2980 Special Topics
[1-4 credit hours]
Student performs work on a specialized project of an advanced nature under the supervision of an Electrical Engineering Technology faculty member.
Term Offered: Spring, Summer

EET 3150 C Programming
[0-4 credit hours]
This course emphasizes C programming. Design of a microcontroller system including hardware, interface, and programming using C is implemented. Lab exercises cover the areas of interrupts, structures and other programming concepts.
Prerequisites: EET 2210 with a minimum grade of D-
Term Offered: Spring, Fall

EET 3250 Network Analysis
[3 credit hours]
This course consists of analysis of electrical wave-forms and first order time domain circuits, transient analysis of reactive circuits using Laplace transforms, system transfer functions, Bode plots and the interpretations of Fourier series and transforms.
Prerequisites: (EET 1010 with a minimum grade of D- and EET 1020 with a minimum grade of D- and ENGT 3020 with a minimum grade of D-)
Term Offered: Spring, Summer

EET 3350 Embedded Systems Design
[0-4 credit hours]
This course covers different aspects of real-time embedded systems implementation with low-level access to hardware resources of microcontrollers. Topics include but not limited to low-level and high-level microcontroller programming covering assembly and C, I/O access, interrupt-driven programming, timers, serial interfacing, analog-to-digital (ADC), and digital-to-analog (DAC). Uses system design approach, such as flow charts, finite state machines (FSM) while implementing embedded systems is emphasized.
Prerequisites: (EET 2210 with a minimum grade of D- and EET 3150 with a minimum grade of D-) or (EET 2210 with a minimum grade of D- and CSET 2230 with a minimum grade of D-)
Term Offered: Spring, Summer, Fall

EET 4150 Analog Systems Design
[0-4 credit hours]
This course emphasizes the design and analysis of analog applications including transistor and integrated circuits using computer-aided engineering techniques. Specifically, this includes the design of small signal amplifiers, multistage amplifiers, operational amplifier circuits and power supplies by applying derived equations and scientific concepts.
Prerequisites: EET 2020 with a minimum grade of D- and EET 1010 with a minimum grade of D-
Term Offered: Spring, Fall

EET 4250 Database Applications for Industry
[4 credit hours]
This course covers fundamentals of database architecture, database management systems, and database systems. Principles and methodologies of database design, and techniques for database application development. It provides needed introductory database fundamentals for Microsoft MS-SQL Server. Applications from industry are included.
Prerequisites: EET 3350 with a minimum grade of D-
Term Offered: Spring, Fall

EET 4300 Motors and Generators
[0-4 credit hours]
This course constitutes a study of AC-DC machines, including transformers, power transmission and the regulations governing them as specified by industry and the National Electrical Code.
Prerequisites: EET 1010 with a minimum grade of D- and EET 1020 with a minimum grade of D- and MATH 2460 with a minimum grade of D-
Term Offered: Spring

EET 4350 Electric Power Systems
[0-4 credit hours]
This course constitutes a study of AC-DC machines, including transformers, power transmission and the regulations governing them as specified by industry and the National Electrical Code.
Prerequisites: EET 1010 with a minimum grade of D- and EET 1020 with a minimum grade of D- and ENGT 3020 with a minimum grade of D-
Term Offered: Spring, Fall

EET 4450 Automatic Control Systems
[0-4 credit hours]
This course covers theoretical and practical aspects of analog control. Included are open and closed loop analysis of processes, causes of instability and corrective actions. Also included are practical applications of closed loop systems.
Prerequisites: ENGT 3020 with a minimum grade of D-
Term Offered: Spring, Summer, Fall

EET 4550 Mechatronics II
[4 credit hours]
Use of programmable controllers and computers in factory automation. Topics included are process control, supervisory software, PLC networking, PLC/CNC integration, device configuration, use of programming software and PLC languages standards.
Prerequisites: (EET 2410 with a minimum grade of D- and CSET 2200 with a minimum grade of D-)
Term Offered: Spring, Summer

EET 4600 Industrial Robotics
[4 credit hours]
The course includes theoretical background on a robotic system, safety, types of robots, mechanics and control, electronic system components, hardware and software. Hands-on experience programming and manipulating the industrial robot in step- by-step and production modes. Advanced techniques of robot teach pendant programming presented in the course will allow students to develop complex scenarios of robot integration in an industrial environment.
Prerequisites: EET 2410 with a minimum grade of D- or ENGT 3050 with a minimum grade of D- or EECS 2300 with a minimum grade of D- or EECS 2340 with a minimum grade of D-
Term Offered: Spring, Fall

EET 4650 Industrial Robotics Vision
[4 credit hours]
This is an engineering technology course to teach students how to use industrial robots outfitted with vision systems which are used in many industrial applications. Hands-on experience programming and manipulating the industrial robot in step- by-step and production modes. Advanced techniques of robot teach pendant programming presented in the course will allow students to develop complex scenarios of robot integration in an industrial environment. Topics covered in this course will enhance student's understanding of industrial machine vision system widely used in industry to improve the automation processes.
Prerequisites: EET 3350 with a minimum grade of D- and EET 2410 with a minimum grade of D- and EET 4600 with a minimum grade of C-
Term Offered: Spring