

## EET - ELECTRONIC ENGINEERING TECH (EET)

### EET 111 DC Circuits 4 SHC

This course is a study of resistance, voltage, current, power and energy in series, parallel and series-parallel circuits using Ohm's Law, Kirchoff's Laws, and circuit theorems. Circuits are analyzed using mathematics and verified using electrical instruments.

Lecture Hours: 3

Lab/Clinical Hours: 3

### EET 112 AC Circuits 4 SHC

This course is a study of capacitive and inductive reactance and impedance in series, parallel and series-parallel circuits. It also includes power, power-factors, resonance and transformers. Circuits are analyzed using mathematics and verified using electrical instruments.

Prerequisites: EET 111

Lecture Hours: 3

Lab/Clinical Hours: 3

### EET 113 Electrical Circuits I 4 SHC

This course is a study of direct and alternating currents, covering resistance and impedance in series, parallel and series-parallel circuits using Ohm's law, Kirchoff's Laws, and basic circuit theorems. Circuits are analyzed using mathematics and verified using electrical instruments.

Prerequisites: MAT 110 & EGR 103.

Lecture Hours: 3

Lab/Clinical Hours: 3

### EET 114 Electrical Circuits II 4 SHC

This course is a continuation in electrical circuits, including advanced network theorems. Circuits are analyzed using mathematics and verified using electrical instruments.

Prerequisites: EET 113.

Lecture Hours: 3

Lab/Clinical Hours: 3

### EET 131 Active Devices 4 SHC

This course is a study of semiconductor theory and principles, diodes and diode circuits, transistors, transistor circuits and other components. Circuits are modeled, constructed and tested.

Prerequisites: EET 113

Lecture Hours: 3

Lab/Clinical Hours: 3

### EET 140 Digital Electronics 3 SHC

This course is a study of the fundamentals of logic theory and circuits. Circuits are analyzed mathematically and tested using simulation software and electronic instruments.

Lecture Hours: 2

Lab/Clinical Hours: 3

### EET 141 Electronic Circuits 4 SHC

This course is a study of electronic circuits using discrete and integrated devices, including analysis, construction, testing and troubleshooting.

Prerequisites: EET 111, EET 112 and EET 131.

Lecture Hours: 3

Lab/Clinical Hours: 3

### EET 145 Digital Circuits 4 SHC

This course is a study of number systems, basic logic gates, Boolean algebra, logic optimization, flip-flops, counters and registers. Circuits are modeled, constructed, and tested.

Prerequisites: EET 111.

Lecture Hours: 3

Lab/Clinical Hours: 3

### EET 212 Industrial Robotics 3 SHC

This course is the study of the systems design, modeling and simulation, signals and control systems, AI, sensor integration, vision systems, robot programming, and principles of mechatronics.

Concurrent Prerequisite: EGR 130 and MAT 110 or appropriate placement test scores.

Lecture Hours: 2

Lab/Clinical Hours: 3

### EET 231 Industrial Electronics 4 SHC

This course is a survey of topics related to industrial application of electronic devices and circuits. The course covers switches, DC and AC motor controls, sensors and transducers, open and closed loop control circuits and voltage converting interfaces. Circuits are constructed and tested.

Prerequisites: EET 113.

Lecture Hours: 3

Lab/Clinical Hours: 3

### EET 233 Control Systems 4 SHC

This course is a study of open and closed loop control system operations, elements, and applications. Various industrial model programmable logic controllers are used to simulate application to flexible manufacturing control systems.

Prerequisites: EET 131.

Lecture Hours: 3

Lab/Clinical Hours: 3

### EET 234 Principles of Mechatronics 3 SHC

This course is the study of the systems design process, information systems, modeling, automatic controls, block diagram analysis, mechanical systems, electronics, logic and systems interfacing.

Prerequisites: Technical Education level EGR 103.

Lecture Hours: 2

Lab/Clinical Hours: 3

### EET 235 Programmable Controllers 3 SHC

This course is a study of relay logic, ladder diagrams, theory of operation, and applications. Loading ladder diagrams, debugging, and troubleshooting techniques are applied to programmable controllers.

Prerequisites: EET 140.

Lecture Hours: 2

Lab/Clinical Hours: 3

### EET 241 Electronic Communications 4 SHC

This course is a study of the theory of transmitters and receivers, with an emphasis on the receivers, mixers, IF amplifiers and detectors.

Some basic FCC rules and regulations are also covered. Course content includes computer networking troubleshooting concepts.

Prerequisites: EET 145.

Lecture Hours: 3

Lab/Clinical Hours: 3

**EET 243 Data Communications 3 SHC**

This course is a study of the techniques for sending and receiving information. Topics include media characteristics, modulation and demodulation, signal conversions, multiplexing and demultiplexing, protocols, industrial standards, networks, and error detection and correction. Circuits are modeled, construction and tested.

Prerequisites: EET 140 or 145.

Lecture Hours: 2

Lab/Clinical Hours: 3

**EET 251 Microprocessor Fundamentals 4 SHC**

This course is a study of binary numbers; microprocessor operation, architecture, instruction sets, and interfacing with operating systems; and applications in control, data acquisition, and data reduction and analysis.

Programs are written and tested.

Prerequisites: EET 140.

Lecture Hours: 3

Lab/Clinical Hours: 3

**EET 255 Advanced Microprocessors 3 SHC**

This course is a study of advanced microprocessors, controllers, and hardware/software interfacing techniques for controlling external devices. Hardware is designed and constructed, and control programs are written and tested.

Prerequisites: EET 251.

Lecture Hours: 2

Lab/Clinical Hours: 3

**EET 273 Electronics Senior Project 1 SHC**

This course includes the construction and testing of an instructor-approved project. Requires advisor approval.

Lecture Hours: 0

Lab/Clinical Hours: 3