

# ELECTRONICS ENGINEERING TECHNOLOGY

## Programs

- Electrical Controls Technology Certificate in Applied Science (<https://catalog.gvltec.edu/school-engineering-technology-professional-studies/electronics-engineering-technology/electrical-controls-technology-certificate/>)
- Electronics Engineering Technology Associate in Applied Science (<https://catalog.gvltec.edu/school-engineering-technology-professional-studies/electronics-engineering-technology/electronics-engineering-technology-aas/>)

## Courses

### EET 111 DC Circuits (3-3-4)

*Offered Fall and Spring Semesters*

Co-requisite: MAT 110

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

### EET 112 AC Circuits (3-3-4)

*Offered Spring and Summer Semesters*

Prerequisites: EET 111 and MAT 110

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.

### EET 131 Active Devices (3-3-4)

*Offered Summer and Fall Semesters*

Prerequisite: EET 112

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.

### EET 141 Electronic Circuits (3-3-4)

*Offered Fall and Spring Semesters*

Prerequisite: EET 131

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

### EET 145 Digital Circuits (3-3-4)

*Offered Spring and Summer Semesters*

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.

### EET 172 Electronic Drafting (1-3-2)

*Offered Fall and Spring Semesters*

This course provides students with entry-level experience with drafting software used to create electronic schematics and wiring diagrams.

### EET 227 Electrical Machinery (2-3-3)

*Offered Summer and Fall Semesters*

Prerequisite: EET 112 or PHY 202 or PHY 222 or permission of instructor

This course is a study of AC and DC electromechanical energy conversion devices, theory, applications and control. Devices are tested and verified using electrical instruments.

### EET 233 Control Systems (3-3-4)

*Offered Fall and Spring Semesters*

Prerequisite: EET 227

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 systems.

### EET 235 Programmable Controllers (2-3-3)

*Offered Spring and Summer Semesters*

Prerequisite: EET 233

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.

### EET 243 Data Communications (2-3-3)

*Offered Spring and Summer Semesters*

Prerequisite: EET 145

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

### EET 251 Microprocessor Fundamentals (3-3-4)

*Offered Fall and Spring semesters*

Prerequisite: EET 145

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

### EET 273 Electronics Senior Project (0-3-1)

*Offered Spring Semester*

Prerequisite: EET 251 or permission of academic program director

This course includes the construction and testing of an instructor-approved project. This is an opportunity for the student to do self-paced independent research, design and construction of a project of the individual's choice. A written report is required.