

SCHOOL OF COMMUNICATION ARTS, COMPUTERS AND TECHNOLOGY

Electrical Engineering Technology A.A.S. (EET)

This program prepares students to obtain entry-level employment in the electrical or electronics industries. Graduates are expected to be qualified for such jobs as technical investigator, electronics technician, quality control technician, engineering aide, and customer engineer.

Upon successful completion of this program, graduates will be able to:

- connect components into basic electrical circuits and use multimeters to verify circuit operation.
- show how the different configurations of capacitance, inductance, and resistance affect the instantaneous voltages and resultant instantaneous currents.
- connect digital circuits common to computers, such as logic gates, flip flops, counters, and arithmetic circuits, into functioning circuits.
- use the instruction set to write assembly language programs to control the operation of the microprocessor.
- construct and experimentally verify the operation of standard electronic circuits, such as power supplies, amplifiers, and oscillators.
- use electrophysical sensors to measure such conditions as light, heat, pressure, and motion to control and operate power devices.
- set up a programmable logic controller to control manufacturing operations.
- use operational amplifiers as a component in a variety of circuits, such as amplifiers, regulators, and active filters.
- apply knowledge of sensing systems to obtain data for a robot to perform specific tasks.
- write programs to control robot functions.
- explain the methods used to transmit and receive radio waves containing intelligence pulse, tone, voice, and coded signals.
- demonstrate a working knowledge of engineering mathematics and engineering physics by properly performing physics laboratory projects and by mathematically evaluating the results.
- write technical reports and develop charts, graphs, and schematics that describe and illustrate the operating characteristics of electrical circuits.

| First Semester | | Credits |
|---------------------|-------------------------------------|-----------|
| ELE 120 | DC Circuits | 4 |
| ELE 130 | Digital Fundamentals | 4 |
| ENG 105 | Research and Composition | 3 |
| MAT 191 | Calculus and Analytical Geometry I | 3 |
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| | | 14 |
| Second Semester | | Credits |
| ELE 165 | AC Circuits | 4 |
| ELE 175 | Introduction to Microprocessors | 4 |
| MAT 196 | Calculus and Analytical Geometry II | 4 |
| PHY 201* | Introduction to Physics I | 4 |
| Elective | Social Science/Humanities | 3 |
| | | <hr/> |
| | | 19 |
| Third Semester | | Credits |
| EGR 101 | Engineering Graphics | 4 |
| EGR 213 | Statics | 3 |
| ELE 210 | Electronic Circuits | 4 |
| ELE 215 | Industrial Electronics | 2 |
| ELE 235 | Programmable Controllers | 2 |
| PHY 202* | Introduction to Physics II | 4 |
| | | <hr/> |
| | | 19 |
| Fourth Semester | | Credits |
| ELE 275 | Integrated Circuits | 4 |
| ELE 255 | Telecommunications | 3 |
| BGT 240 | Industrial Automation | 3 |
| ENG 107* | Technical Writing | 3 |
| Elective | Social Science/Humanities | 3 |
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| | | 16 |
| Credit Total | | 68 |

Students enrolling in this program must have completed high school Algebra III and Trigonometry or its equivalents (e.g., MAT 160 and MAT 165). It is also recommended that students have completed one year of a high school laboratory science (chemistry or physics preferred).

*Students planning to transfer to a four-year college or university should substitute PHY 210/215 for PHY 201/202 and ENG 106 for ENG 107.

Some four-year colleges and universities require that ENG 111 be completed prior to transfer with junior-year standing.