# ELECTRONICS AND COMPUTER - ENGINEERING TECHNOLOGY (CERTIFICATE T0906)

**Technology and Health Division**
**Certificate T0906**
The Electronics and Computer Engineering Technology (ECET) degree program prepares individuals either for initial employment or for enhancement of existing skills in the electronics field. In addition to exposing students to core topics such as components and circuits, the program includes coursework in advanced areas including microcontrollers and interfacing, communications, and industrial electronic controls. Nearly all laboratories have equipment to provide students with quality, hands-on learning experiences.
Students completing ECET degree and certificate programs possess ample skills to make them versatile employees. Typical technician-level job classifications include field service technician, fields engineer, computer service technician, customer service technician, communications technician, maintenance technician and electronics technician. All students completing the A.S. degree program are automatically eligible to receive, without further examination, the 3rd class technician license from the National Association of Radio and Telecommunications Engineers (N.A.R.T.E.). There are no prerequisites and/or enrollment limitations.

## Required Courses

| Course Prefix | Course Name | Units |
| --- | --- | --- |
| ELEC 11 | Technical Applications in Microcomputers | 3 |
| ELEC 12 | Computer Simulation and Troubleshooting | 2 |
| ELEC 50A | Electronic Circuits - Direct Current (DC) | 4 |
| ELEC 50B | Electronic Circuits (AC) | 4 |
| ELEC 51 | Semiconductor Devices and Circuits | 4 |
| ELEC 53 | Communications Systems | 4 |
| ELEC 54A | Industrial Electronics | 4 |
| ELEC 54B | Industrial Electronic Systems | 3 |
| ELEC 55 | Microwave Communications | 4 |
| ELEC 56 | Digital Electronics | 4 |
| ELEC 61 | Electronic Assembly and Fabrication | 3 |
| ELEC 74 | Microcontroller Systems | 4 |
| TECH 60 | Customer Relations for the Technician | 2 |
| **Total Units** | | **45** |

## Recommended Electives

| Course Prefix | Course Name | Units |
| --- | --- | --- |
| CISP 11 | Programming in Visual Basic | 3 |
| CNET 56 | Computer Networks | 4 |
| ELEC 10 | Introduction to Mechatronics | 2 |
| ELEC 62 | Advanced Surface Mount Assembly and Rework | 2 |
| ELEC 76 | FCC General Radiotelephone Operator License Preparation | 2 |

Electronics and Computer Technology Website (http://www.mtsac.edu/electronics/)

## Program Learning Outcomes
*Upon successful completion of this program, a student will be able to:*

- Apply knowledge of electronic principles to the areas of communications, industrial electronics, and microcontrollers.
- Demonstrate proper use of electronic test equipment and associate measurement results with circuit behaviors in the laboratory.
- Quantitatively determine unknown electrical parameters from given or measured values and use these results to assess or troubleshoot faults in circuit and system operation.
- Communicate, both verbally and in writing, knowledge of electrical concepts and their application to the observed behaviors of circuits and systems.
- In advanced courses, connect concepts learned in introductory courses to more general principles applicable in the employment context.

Review Student Learning Outcomes (SLOs) (http://www.mtsac.edu/instruction/outcomes/sloinfo.html) for this program.