

## ENGINEERING TECHNOLOGY

### Associate in Science Degree

#### Program Description

The Engineering Technology Associate Degree provides students with the knowledge base required to become Engineering Technicians in the areas of electrical and electronic systems. Additional coursework in electromechanical principles and robotics will aid in pursuing employment opportunities in the emerging 3D printing and robotics engineering fields. Upon successful completion of the program students will be able to provide the technical knowledge and know how to assist and support design engineers that develop new products in a variety of different fields. Although the curriculum is designed to facilitate those students wishing to develop a career in Engineering Technology some students may find opportunity in continuing their education at institutions offering a Bachelor of Science degree in engineering. Additional college courses in science and mathematics may be required to build sufficient credits to transfer into a baccalaureate program.

#### Program Outcomes

At the completion of this program, the student should be able to:

- Identify a wide variety of electrical and/or electronic circuit elements
- Read and evaluate electronic component specifications and schematics
- Knowledge of test instruments and use in measuring electronic subsystem and component performance
- Apply AC/DC circuit theory to design, analyze, troubleshoot and correct electronic circuits consisting of analog and digital circuits
- Record and effectively communicate observed test data
- Skill in the assembly and integration of electronic subsystems
- Write and use software for command and control of electronic subassemblies
- Knowledge of electrical, electronic and mechanical component interaction as they pertain to robotic assemblies
- Possess computer skills for the preparation of technical documents, analysis of observed data, project management, implementing simple software programs and the creation of presentation materials

#### The College Core Requirements

Computer Science Core	3 credits
ENG 101 English Composition I	3 credits
ENG 102 English Composition II*	3 credits
History/Government Core	3 credits
IDS 167 First Year Seminar	3 credits
MAT 103 College Algebra	3 credits
PHY 111 General Physics I w/lab*	4 credits
Social Science/Psychology Core	3 credits

#### Program Requirements

CSI 107 C++ Programming*	3 credits
CSI 116 Introduction to Programming	3 credits
CSI 261 Robotics Programming*	3 credits
EGR 101 Electrical Fundamentals*	3 credits
EGR 105 Digital Electronic Circuits*	3 credits
EGR 201 Electronics I*	3 credits
EGR 202 Electronics II*	3 credits
EGR 210 Microprocessors I*	3 credits
EGR 211 Microprocessors II*	3 credits
EGR 220 Computer Aided Design w/lab*	4 credits
EGR 230 Robotics Engineering*	3 credits
MAT 113 Precalculus*	3 credits
PHY 112 General Physics II w/lab*	4 credits
Program Electives	3-4 credits

#### **Total credits required for graduation**

**69-70 credits**

#### Program Electives

CSI 111 Digital Computer Hardware	3 credits
CSI 262 Advanced Robotics Programming*	3 credits
EGR 297 Engineering Internship*	3 credits
MAT 204 Calculus I B*	4 credits
MGT 240 Project Management	3 credits

\*Indicates course requires the completion of a prerequisite.

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