

# ENGINEERING TECHNOLOGY, ASSOCIATE OF SCIENCE (612)

## About Our Program

This program is intended to provide the first two years of a four-year baccalaureate program. Students in this major will use their technical skills and knowledge of science and math in the support of engineering activities. Students should have interest in mechanical and electrical devices and mathematics, skill in using instruments, ability to make accurate observations and measurements, and ability to work with others as a part of a team.

## Nature of Work and Employment

After attaining a baccalaureate degree, students may work in one of several different engineering specialties including aeronautical, agricultural, biological, chemical, civil, computer, electrical, industrial, manufacturing, material, mechanical, mining, and nuclear. Engineering Technicians are employed by companies in the electrical equipment, machinery, aerospace, and construction industries; by radio and TV stations; engineering and architectural firms; and by organizations in other fields. Faster than average job growth is projected due to anticipated increases in research and development expenditures and the expected growth in the output of technical products.

## Special Considerations

Those interested in engineering should have an aptitude for science, mathematics, problem solving, and versatility. Good verbal and written skills along with the ability to work on a team are also needed. The guideline listed is recommended only. Students should check with a student advisor for specific university requirements in this major. Each student must meet with an advisor to ensure that the special requirements of the department and the institution to which they plan to transfer are fully met.

## Requirements

### Associate of Science Requirements

Students must meet all requirements for the Associate of Science degree (<https://catalog.highland.edu/programs-available/as-requirements/>) in order to graduate from Highland Community College. For more information, please see your advisor.

## Recommended Courses

The following are recommended courses for this major only.

### Chemistry

Code	Title	Hours
CHEM 123	General College Chemistry I <sup>1</sup>	5

### Engineering

Code	Title	Hours
PHYS 120	Introduction to Engineering	2

### Economics

Code	Title	Hours
ECON 111	Principles of Economics I <sup>1</sup>	3

### Computer Science

Code	Title	Hours
INFT 190	Prin of Computer Science I <sup>1</sup>	3
INFT 290	Prin of Computer Science II <sup>1</sup>	3

### Mathematics

Code	Title	Hours
MATH 134	Statistics <sup>1</sup>	4
MATH 250	Analytic Geometry/Calculus I <sup>1</sup>	5
MATH 255	Analytic Geometry/Calculus II <sup>1</sup>	5

### Physics

Code	Title	Hours
Select one of the following:		8
PHYS 141 & PHYS 142	Introductory Physics I and Introductory Physics II <sup>1</sup>	
PHYS 143 & PHYS 144	General Physics I and General Physics II <sup>1</sup>	

<sup>1</sup> Course has a prerequisite. See course description.

## Program Outcomes

- Students should be able to understand and employ aspects of scientific methodologies.
- Students should practice proper lab technique in compliance with relevant safety standards.
- Students should understand the fundamental uncertainties in experimental measurements inherent in different laboratory techniques and instrumentation.
- Students should be able to analyze data sets and communicate information in a clear and organized manner with presentations and properly cited written reports.
- Students should utilize peer-reviewed scientific literature effectively.
- Students should be able to work with peers in a team setting.
- Students should be able to relate contemporary societal and global issues to the physical and life sciences.

## Program Contacts

Call Highland at 815-235-6121 for the following program contacts:

- Dr. Brendan Dutmer, Dean, Natural Science and Mathematics
- Dr. Ghaneshwar Gautam, Physics and Engineering Faculty
- Beth Groshans, Student Advisor