

# Physics (411)

## ASSOCIATE OF SCIENCE

### About Our Program

This program is intended to provide the first two years of a four-year baccalaureate program. Majors in physics examine natural phenomena at the fundamental level. Through observation, measurement, and mathematical analysis of processes, physics seeks to discover the underlying principles and concepts.

### 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.

### Nature of Work and Employment

The four most common jobs people have one year after completion of their bachelor's degree in this major are researcher, science technician, electrical/electronics engineer, and computer analyst.

### Special Considerations

Those interested in this field should possess a strong aptitude for mathematics and science as well as an interest and curiosity about natural phenomena. The listed coursework is a recommendation only. Students should check with a student advisor for HCC graduation requirements and specific university requirements in this major. Students must meet with an advisor to ensure that the special requirements of the department and institution to which they plan to transfer are met. Colleges and universities have specific requirements for transfer students.

### Program Contacts

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

- Dr. Brendan Dutmer, Dean, Natural Science and Mathematics
- David Esch, Physics/Engineering Faculty
- Beth Groshans, Student Advisor

### Recommended Courses

The following are recommended courses for this major only. Students must still meet all requirements for the Associate of Science degree (see page 58) in order to graduate from Highland Community College. For more information, please see your student advisor.

#### Chemistry

* CHEM	123	General College Chemistry I	5
* CHEM	124	General College Chemistry II	5

#### Mathematics

* MATH	250	Analytic Geometry & Calculus I	5
* MATH	255	Analytic Geometry & Calculus II	5
* MATH	269	Analytic Geometry & Calculus III	4
* MATH	265	Differential Equations	3
* MATH	270	Linear Algebra	3

#### Physics

* PHYS	143	General Physics I	4
* PHYS	144	General Physics II	4
* PHYS	145	General Physics III	3

#### Computer Science

* INFT	190	Principles of Computer Science I	3
* INFT	290	Principles of Computer Science II	3

\* Course has a prerequisite. See course description.