SCIENCE, A.S.

Begin Campus: Altoona

End Campus: Altoona

Program Description

The Science major is designed primarily to provide for the basic educational needs of students who want to pursue professional programs in various scientific or medical fields. The program provides a fundamental group of science courses of value to those who seek positions in government or industry where such knowledge is necessary or desirable. The program offers sufficient flexibility to meet diverse academic and career goals.

Graduates of the program may qualify for admission to the baccalaureate degrees in science. Students planning on continuing in baccalaureate degrees are encouraged to work closely with their advisers.

What is Science?

Science is the study of scientific theory and practice with a strong foundation in the basic sciences (biology, chemistry, mathematics, and physics).

You Might Like This Program If...

- You want to pursue a profession in various scientific and medical fields.
- You seek positions in government or industry where such fundamental science knowledge is necessary or desirable.
- You want to pursue a more advanced degree in science

MORE INFORMATION ABOUT SCIENCE (https://altoona.psu.edu/academics/associate-degrees/science/)

Entrance to Major

Students must have a minimum 2.0 GPA to change to this Associate degree after admission to the University.

Degree Requirements

For the Associate in Science degree in Science, a minimum of 67 credits is required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>21</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>61</td>
</tr>
</tbody>
</table>

15 of the 21 credits for General Education are included in the Requirements for the Major. This includes 15 credits: 3 credits of GN courses; 3 credits of GQ courses; 3 credits of GWS courses; 3 credits of GH courses; 3 credits of GQ, GWS, GH, or GN courses.

Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>BIOL 110</td>
<td>Biology: Basic Concepts and Biodiversity</td>
<td>4</td>
</tr>
<tr>
<td>CAS 100</td>
<td>Effective Speech</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 110</td>
<td>Chemical Principles I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 111</td>
<td>Experimental Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 15</td>
<td>Rhetoric and Composition</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 112</td>
<td>Chemical Principles II</td>
<td>3</td>
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<tr>
<td>or CHEM 202</td>
<td>Fundamentals of Organic Chemistry I</td>
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<td>Select one of the following:</td>
<td>4-6</td>
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<tr>
<td>MATH 22</td>
<td>College Algebra With Analytic Geometry and Applications II</td>
<td></td>
</tr>
<tr>
<td>&amp; MATH 26</td>
<td>and Plane Trigonometry and Applications of Trigonometry</td>
<td></td>
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<tr>
<td>MATH 40</td>
<td>Calculus With Analytic Geometry I</td>
<td></td>
</tr>
<tr>
<td>MATH 140</td>
<td>Calculus With Analytic Geometry I</td>
<td></td>
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<td>Select one of the following:</td>
<td>3-4</td>
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<tr>
<td>STAT 200</td>
<td>Elementary Statistics</td>
<td></td>
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<tr>
<td>STAT 250</td>
<td>Introduction to Biostatistics</td>
<td></td>
</tr>
<tr>
<td>PHIL 103</td>
<td>Ethics</td>
<td></td>
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<tr>
<td>PHIL 110</td>
<td>Philosophy of Science</td>
<td></td>
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<tr>
<td>PHIL 118</td>
<td>Environmental Philosophy</td>
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<tr>
<td>PHIL 221</td>
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<tr>
<td>Select one of the following:</td>
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<tr>
<td>CMPSC 100</td>
<td>Computer Fundamentals and Applications</td>
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<tr>
<td>CMPSC 101</td>
<td>Introduction to Programming</td>
<td></td>
</tr>
<tr>
<td>MIS 103</td>
<td>Microcomputer Applications in Business</td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>6-8</td>
<td></td>
</tr>
<tr>
<td>PHYS 150</td>
<td>Technical Physics I</td>
<td></td>
</tr>
<tr>
<td>&amp; PHYS 151</td>
<td>and Technical Physics II</td>
<td></td>
</tr>
<tr>
<td>PHYS 250</td>
<td>Introductory Physics I</td>
<td></td>
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<tr>
<td>&amp; PHYS 251</td>
<td>and Introductory Physics II</td>
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</tbody>
</table>

Supporting Courses and Related Areas

Select 20-25 credits from approved departmental list of BIOLOGICAL/MATH/PHYSICAL SCIENCES

1 PHYS 250 and PHYS 251 and MATH 140 are recommended for students planning to continue in baccalaureate programs of science.

General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all associate degree students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-
education/associate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

**Foundations (grade of C or better is required and Inter-Domain courses do not meet this requirement.)**
- Quantification (GQ): 3 credits
- Writing and Speaking (GWS): 3 credits

**Knowledge Domains**
- Arts (GA): 3 credits
- Humanities (GH): 3 credits
- Social and Behavioral Sciences (GS): 3 credits
- Natural Sciences (GN): 3 credits

**Note:** Up to six credits of Inter-Domain courses may be used for any Knowledge Domain requirement, but when a course may be used to satisfy more than one requirement, the credits from the course can be counted only once.

**Exploration**
- Any General Education course (including GHW and Inter-Domain): 3 credits

**University Degree Requirements**

**Cultures Requirement**
3 credits of United States (US) or International (IL) cultures coursework are required and may satisfy other requirements

**Writing Across the Curriculum**
3 credits required from the college of graduation and likely prescribed as part of major requirements.

**Total Minimum Credits**
A minimum of 60 degree credits must be earned for a associates degree. The requirements for some programs may exceed 60 credits. Students should consult with their college or department adviser for information on specific credit requirements.

**Quality of Work**
Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

**Limitations on Source and Time for Credit Acquisition**
Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80)). For more information, check the Suggested Academic Plan for your intended program.

**Program Learning Objectives**

**Understanding scientific concepts:** Students will demonstrate understanding of scientific concepts including the process of science and experimentation.

**Understanding Chemistry Concepts:** Students will demonstrate a thorough knowledge of basic chemistry principles.

**Understanding Biological concepts:** Students will demonstrate a thorough understanding of biological concepts including cellular organization, genetics, physiology, ecology, and evolution.

**Understanding Physical concepts:** Students will demonstrate a thorough understanding of physical concepts including fundamental laws of physics.

**Interpreting scientific data and primary literature:** Students will demonstrate the ability to collect, analyze and interpret scientific data and interpret primary scientific literature.

**Communication:** Students will demonstrate the ability to communicate scientific findings via oral and written communication.

**Scientific skills:** Students will demonstrate appropriate laboratory skills including scientific technique, maintaining a laboratory notebook, and adhering to safety procedures.

**Academic Advising**
The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/32-00-advising-policy/)

**Altoona**
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rcb155@psu.edu

**Career Paths**

**Careers**
Students may pursue careers in health sciences, practical health care professions, and technical service industries.

**Opportunities for Graduate Studies**
Graduates of the program may qualify for admission to baccalaureate degree programs in mathematics and the sciences. Students planning on continuing in baccalaureate degrees are encouraged to work closely with their advisers.

**Contact**
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