

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 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 (<http://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:

Requirement	Credits
General Education	21
Requirements for the Major	61

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.

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.)

- **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 is used to satisfy more than one requirement, the credits from the course can be counted only once.

Foundations or Knowledge Domains

- **Any General Education course:** 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 (<http://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.

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 (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44>).

Code	Title	Credits
Prescribed Courses		
<i>Prescribed Courses: Require a grade of C or better</i>		
BIOL 110	Biology: Basic Concepts and Biodiversity	4
CAS 100	Effective Speech	3
CHEM 110	Chemical Principles I	3
CHEM 111	Experimental Chemistry I	1
ENGL 15	Rhetoric and Composition	3
Additional Courses		
CHEM 112	Chemical Principles II	3
	or CHEM 202 Fundamentals of Organic Chemistry I	
Select one of the following:		4-6
MATH 22 & MATH 26	College Algebra II and Analytic Geometry and Plane Trigonometry	
MATH 40	Algebra, Trigonometry, and Analytic Geometry	
MATH 140	Calculus With Analytic Geometry I ¹	
Select one of the following:		3-4
STAT 200	Elementary Statistics	
STAT 250	Introduction to Biostatistics	
Select one of the following:		3
PHIL 2	Individuals in Society	
PHIL 103	Ethics	
PHIL 110	Philosophy of Science	
PHIL 118	Environmental Philosophy	
PHIL 221		
Select one of the following:		3
CMPSC 100	Computer Fundamentals and Applications	
CMPSC 101	Introduction to Programming	
MIS 103	Microcomputer Applications in Business	
Select one of the following:		6-8
PHYS 150 & PHYS 151	Technical Physics I and Technical Physics II	
PHYS 250 & PHYS 251	Introductory Physics I and Introductory Physics II ¹	
Supporting Courses and Related Areas		
Select 20-25 credits from approved departmental list of BIOLOGICAL/20-25 MATH/PHYSICAL SCIENCES		

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

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/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

Altoona

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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

Altoona

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<https://altoona.psu.edu/academics/associate-degrees/science> (<https://altoona.psu.edu/academics/associate-degrees/science/>)