SCIENCE, B.S. (UNIVERSITY COLLEGE)

Begin Campus: Any Penn State Campus
End Campus: York, Scranton

Program Description
Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The Science major provides a broad and interdisciplinary foundation in the natural sciences. The Science BS program uses the principles of chemistry, physics, and life sciences to understand how these integrate over general areas including biological sciences and health professions, public policy, and science research and development.

You Might Like This Program If...
- You like learning by doing hands-on experiments.
- You are curious about the natural world and how science disciplines come together to explore and understand it.
- You are intrigued by science and desire a career in current and emerging interdisciplinary science disciplines, health professions, or melding science with law, policy or business.

Entrance to Major
In order to be eligible for entrance to the Science major, a student at any location must have:
1. attained at least a 2.00 cumulative grade-point average;
2. completed MATH 140 with a grade of C or better;
3. completed at least two of the following courses, BIOL 110; CHEM 110; PHYS 211 or PHYS 250, with a grade of C or better.

Degree Requirements
For the Bachelor of Science degree in Science, a minimum of 124 credits is required, with at least 15 credits at the 400 level:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>45</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>94</td>
</tr>
</tbody>
</table>

15 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 9 credits of GN courses; 6 credits of GQ 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 baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (http://bulletins.psu.edu/undergraduate/general-
education/baccalaureate-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.)**
- Writing and Speaking (GWS): 9 credits
- Quantification (GQ): 6 credits
- Humanities (GH): 6 credits
- Social and Behavioral Sciences (GS): 6 credits
- Natural Sciences (GN): 9 credits

**Knowledge Domains**
- Arts (GA): 6 credits
- Health and Wellness (GHW): 3 credits
- International Cultures: 3 credits

**Integrative Studies (may also complete a Knowledge Domain requirement)**
- Inter-Domain or Approved Linked Courses: 6 credits

**University Degree Requirements**

**First Year Engagement**
All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience. First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

**Cultures Requirement**
6 credits are required and may satisfy other requirements
- United States Cultures: 3 credits
- International Cultures: 3 credits

**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 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 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**
The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. 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).

**Common Requirements for the Major (All Options)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 111</td>
<td>Experimental Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 112</td>
<td>Chemical Principles II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 113</td>
<td>Experimental Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>MATH 141</td>
<td>Calculus with Analytic Geometry II</td>
<td>4</td>
</tr>
</tbody>
</table>

**Prescribed Courses: Require a grade of C or better**
- BIOL 110  Biology: Basic Concepts and Biodiversity  4
- CHEM 110  Chemical Principles I                  3
- MATH 140  Calculus With Analytic Geometry I      4

**Requirements for the Option**
Select an option  74

**Requirements for the Option**

**General Science Option (74 credits)**

*Available at the following campuses: Altoona, Berks, Harrisburg, Scranton, University Park, York*

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 129</td>
<td>Mammalian Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 141 &amp; BIOL 142</td>
<td>Introductory Physiology and Physiology Laboratory</td>
<td></td>
</tr>
<tr>
<td>BIOL 220W</td>
<td>Biology: Populations and Communities</td>
<td></td>
</tr>
<tr>
<td>BIOL 230W</td>
<td>Biology: Molecules and Cells</td>
<td></td>
</tr>
<tr>
<td>BIOL 240W</td>
<td>Biology: Function and Development of Organisms</td>
<td></td>
</tr>
<tr>
<td>STAT 200</td>
<td>Elementary Statistics</td>
<td>3-4</td>
</tr>
<tr>
<td>STAT 250</td>
<td>Introduction to Biostatistics</td>
<td></td>
</tr>
<tr>
<td>STAT 301</td>
<td>Statistical Analysis I</td>
<td></td>
</tr>
<tr>
<td>STAT 401</td>
<td>Experimental Methods</td>
<td></td>
</tr>
<tr>
<td>PHYS 211 &amp; PHYS 212</td>
<td>General Physics: Mechanics and General Physics: Electricity and Magnetism</td>
<td>8-12</td>
</tr>
<tr>
<td>&amp; PHYS 213 &amp; PHYS 214</td>
<td>General Physics: Fluids and Thermal Physics &amp; General Physics: Wave Motion and Quantum Physics</td>
<td></td>
</tr>
<tr>
<td>PHYS 250 &amp; PHYS 251</td>
<td>Introductory Physics I and Introductory Physics II</td>
<td></td>
</tr>
</tbody>
</table>

**Additional Courses**
Select 4 credits of the following:
- BIOL 129  Mammalian Anatomy  4
- BIOL 141  Introductory Physiology  4
- BIOL 142  and Physiology Laboratory  4
- BIOL 220W  Biology: Populations and Communities  4
- BIOL 230W  Biology: Molecules and Cells  4
- BIOL 240W  Biology: Function and Development of Organisms  4
- STAT 200  Elementary Statistics  3-4
- STAT 250  Introduction to Biostatistics  4
- STAT 301  Statistical Analysis I  4
- STAT 401  Experimental Methods  4

Select 8-12 credits of the following:
- PHYS 211 & PHYS 212  General Physics: Mechanics and General Physics: Electricity and Magnetism  8-12
- & PHYS 213 & PHYS 214  and General Physics: Fluids and Thermal Physics & General Physics: Wave Motion and Quantum Physics  8-12
- PHYS 250 & PHYS 251  Introductory Physics I and Introductory Physics II  8-12

**Supporting Courses and Related Areas**
A maximum of 12 credits of Independent Study (296, 496) may be applied toward credits for graduation.
Select 21-26 credits from program list (Students may apply 6 credits of ROTC)
Select 3 credits from earth and mineral sciences  3
Select 3 credits in Global, Social, and Personal Awareness from department approved course list in consultation with adviser
Select 3 credits in Teamwork and Interpersonal Communication from department approved course list in consultation with adviser
Select 6 credits of 400-level courses

Supporting and Related Courses: Require a grade of C or better
Select 18 credits in life, mathematical, or physical sciences, with at least 9 credits at the 400 level

Physical sciences include ASTRO, CHEM, PHYS; mathematical sciences include CMPSC, MATH, STAT; life sciences include BIOL, BIOTC, BMB, MICRB.

Biological Sciences and Health Professions Option (74 credits)
Available at the following campuses: University Park

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>HPA 101</td>
<td>Introduction to Health Services Organization</td>
<td>3</td>
</tr>
</tbody>
</table>

**Prescribed Courses**

**Additional Courses**
Select 4 credits of the following:
- BIOL 129 Mammalian Anatomy
- BIOL 220W Biology: Populations and Communities
- BIOL 230W Biology: Molecules and Cells
- BIOL 240W Biology: Function and Development of Organisms
- BIOL 141 Introductory Physiology
  & BIOL 142 and Physiology Laboratory

Select 3-4 credits of the following:
- STAT 200 Elementary Statistics
- STAT 250 Introduction to Biostatistics
- STAT 301 Statistical Analysis I
- STAT 401 Experimental Methods

Select 6-8 credits of the following:
- CHEM 202 Fundamentals of Organic Chemistry I
  & CHEM 203 and Fundamentals of Organic Chemistry II
- CHEM 210 Organic Chemistry I
  & CHEM 212 and Organic Chemistry II
  & CHEM 213 and Laboratory in Organic Chemistry

Select 3 credits of the following:
- BIOL 222 Genetics
- BIOL 322 Genetic Analysis
- BMB 211 Elementary Biochemistry
- BMB 251 Molecular and Cell Biology I
- MICRB 201 Introductory Microbiology

Select 8-12 credits of the following:
- PHYS 211 General Physics: Mechanics
  & PHYS 212 and General Physics: Electricity and Magnetism
  & PHYS 213 and General Physics: Fluids and Thermal Physics
  & PHYS 214 and General Physics: Wave Motion and Quantum Physics
- PHYS 250 Introductory Physics I
  & PHYS 251 and Introductory Physics II

Supporting Courses and Related Areas
A maximum of 12 credits of Independent Study (296, 496) may be applied toward credits for graduation.
Select 15 credits from program list for Healthcare/ Medicine/Ethical Competencies
Select 10-17 credits from program list (Students may apply 6 credits of ROTC)
Select 3 credits in Global, Social, and Personal Awareness from department approved course list in consultation with adviser
Select 3 credits in Teamwork and Interpersonal Communication from department approved course list in consultation with adviser

Supporting Courses and Related Areas: Require a grade of C or better
Select 9 credits of 400-level BMB, BIOL, BIOTC, or MICRB courses

Legal Studies, Government Service, Public Policy Option (74 credits)
Available at the following campuses: University Park

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<tr>
<td>&amp; BIOL 142</td>
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<td>Introductory Physiology</td>
<td></td>
</tr>
<tr>
<td>&amp; BIOL 142</td>
<td>and Physiology Laboratory</td>
<td></td>
</tr>
</tbody>
</table>

Select 3-4 credits of the following:
- STAT 200 Elementary Statistics
- STAT 250 Introduction to Biostatistics
- STAT 301 Statistical Analysis I
- STAT 401 Experimental Methods

Select 8-12 credits of the following:
- PHYS 211 General Physics: Mechanics
  & PHYS 212 and General Physics: Electricity and Magnetism
  & PHYS 213 and General Physics: Fluids and Thermal Physics
  & PHYS 214 and General Physics: Wave Motion and Quantum Physics
- PHYS 250 Introductory Physics I
  & PHYS 251 and Introductory Physics II

Supporting Courses and Related Areas
Select 12-17 credits from program list (Students may apply 6 credits of ROTC)
Select 18 credits from program list for Legal Studies, Government Service, Public Policy
Select 3 credits in Global, Social, and Personal Awareness from department approved course list in consultation with adviser
Select 3 credits in Teamwork and Interpersonal Communication from department approved course list in consultation with adviser

Supporting Courses and Related Areas: Require a grade of C or better
Select 18 credits in life, mathematical, or physical sciences, with at least 9 credits at the 400 level
Life Science Option (74 credits)

Available at the following campuses: Altoona, Berks, Harrisburg, Scranton, University Park, York

Select 9 credits of 400-level BMB, BIOL, BIOTC, or MICRB courses

Supporting Courses and Related Areas: Require a grade of C or better
Select 3 credits in Teamwork and Interpersonal Communication
Select 3 credits in Global, Social, and Personal Awareness
Select 6 credits of 400-level courses
Select 23-29 credits from program list (Students may apply 6 credits toward credits for graduation.
A maximum of 12 credits of Independent Study 296, 496 may be approved course list in consultation with adviser.

Additional Courses

Select 9 credits of 400-level CMPSC, CSE, MATH, or STAT courses

Supporting Courses and Related Areas

A maximum of 12 credits of Independent Study (296, 496) may be applied toward credits for graduation.
Select 18-24 credits from program list (Students may apply 6 credits towards credits for graduation.

Select 6 credits of 400-level courses
Select 3 credits in Global, Social, and Personal Awareness
Select 3 credits in Teamwork and Interpersonal Communication
Select 9 credits of 400-level CMPSC, CSE, MATH, or STAT courses

Physical Science Option (74 credits)

Available at the following campuses: Altoona

Select 6 credits of the following:
PHYS 211 and PHYS 250 require a grade of C or better.

Select 3 credits of the following:

Select 3 credits of the following:

Select 6 credits of the following:

Select 3 credits of the following:

Select 3 credits of the following:

Select 6-8 credits of the following:

Select 9 credits of 400-level courses

Select 8-12 credits from program list (Students may apply 6 credits toward credits for graduation.

Select 6 credits of the following:

Supporting Courses and Related Areas

A maximum of 12 credits of Independent Study (296, 496) may be applied toward credits for graduation.
Select 18-24 credits from program list (Students may apply 6 credits toward credits for graduation.

Select 6 credits of 400-level courses
Select 3 credits in Global, Social, and Personal Awareness
Select 3 credits in Teamwork and Interpersonal Communication
Select 9 credits of 400-level CMPSC, CSE, MATH, or STAT courses

Physical Science Option (74 credits)

Available at the following campuses: Altoona

Select 3 credits of the following:
Accelerated Science B.S./M.B.A. Program (SCBUS_BS)

Students must begin and complete the Accelerated Science B.S./M.B.A. Program at the University Park campus.

Students admitted to this special cooperative program between the Eberly College of Science and The Smeal College of Business will be able to combine a Bachelor of Science degree in the Science major, with a Master of Business Administration degree. Highly motivated students, who enter the University with a sufficient number and proper distribution of AP credits, will have the opportunity to complete the requirements for both programs within five years.

What is the Accelerated Science B.S./M.B.A. Program?
The Accelerated Science B.S./M.B.A. Program is designed to educate the leaders in scientific industry, by providing students with a rigorous science background and undergraduate degree along with a graduate degree in business administration.

You Might Like This Program If...
- You love studying science, but don't necessarily want a career in a laboratory.
- You enjoy coursework in multiple science disciplines and in business.
- You aspire to leadership roles.
- You enjoy working with others on a daily basis.
- You want the opportunity to move into a leadership role early in your career.

Program Requirements
The B.S. degree in the Science major General Science option, will be conferred upon satisfactory completion of:

1. The first semester of course work in The Smeal College of Business M.B.A. program (i.e., a minimum of 12 graduate credits).
2. A minimum of 112 acceptable undergraduate credits, which must include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL</td>
<td>Biology: Basic Concepts and Biodiversity</td>
<td>3</td>
</tr>
<tr>
<td>CHEM</td>
<td>Chemical Principles I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM</td>
<td>Experimental Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM</td>
<td>Chemical Principles II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM</td>
<td>Experimental Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>CMPSC</td>
<td>Introduction to Spreadsheets and Databases</td>
<td>4</td>
</tr>
<tr>
<td>MATH</td>
<td>Calculus With Analytic Geometry I</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>Calculus With Analytic Geometry II</td>
<td>4</td>
</tr>
<tr>
<td>STAT</td>
<td>Elementary Statistics</td>
<td>3-4</td>
</tr>
<tr>
<td>STAT</td>
<td>Introduction to Biostatistics</td>
<td></td>
</tr>
<tr>
<td>STAT</td>
<td>Statistical Analysis I</td>
<td></td>
</tr>
<tr>
<td>STAT</td>
<td>Experimental Methods</td>
<td></td>
</tr>
<tr>
<td>BMB</td>
<td>Elementary Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>MICRB</td>
<td>Molecular and Cell Biology I</td>
<td></td>
</tr>
<tr>
<td>ACCTG</td>
<td>Financial and Managerial Accounting for Decision Making</td>
<td>4</td>
</tr>
</tbody>
</table>

Supporting Courses and Related Areas
A maximum of 12 credits of Independent Study (296, 496) may be applied toward credits for graduation.

Select 20-22 credits from program list (Students may apply 6 credits of ROTC)

Select 6 credits of 400-level courses
Select 3 credits in Global, Social, and Personal Awareness
Select 3 credits in Teamwork and Interpersonal Communication

Supporting Courses and Related Areas: Require a grade of C or better
Select 9 credits of 400-level ASTRO, CHEM, or PHYS courses

Select 6 credits of 400-level courses
Select 3 credits in Global, Social, and Personal Awareness
Select 3 credits in Teamwork and Interpersonal Communication

Supporting Courses and Related Areas: Require a grade of C or better
Select 9 credits of 400-level ASTRO, CHEM, or PHYS courses

In addition to the general education requirements, the following courses must be completed:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS</td>
<td>General Physics: Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS</td>
<td>General Physics: Electricity and Magnetism</td>
<td></td>
</tr>
<tr>
<td>PHYS</td>
<td>General Physics: Fluids and Thermal Physics</td>
<td></td>
</tr>
<tr>
<td>PHYS</td>
<td>General Physics: Wave Motion and Quantum Physics</td>
<td></td>
</tr>
<tr>
<td>BMB</td>
<td>Elementary Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>MICRB</td>
<td>Molecular and Cell Biology I</td>
<td></td>
</tr>
<tr>
<td>ACCTG</td>
<td>Financial and Managerial Accounting for Decision Making</td>
<td>4</td>
</tr>
<tr>
<td>ECON</td>
<td>Introductory Microeconomic Analysis and Policy</td>
<td>3</td>
</tr>
<tr>
<td>ECON</td>
<td>Introductory Macroeconomic Analysis and Policy</td>
<td>3</td>
</tr>
</tbody>
</table>
Select supporting courses and related areas selected from the program list

1 The University’s General Education requirements in the areas of Writing and Speaking (9), Health and Physical Activity (3), Arts (6), Humanities (6). The University’s General Education requirements in the areas of Quantification, Natural Sciences, and Social and Behavioral Sciences will be satisfied by course work listed under headings “3” and “6”.
2 These requirements may be double counted in order to satisfy other requirements in the program.
3 Course requires a grade of C or better.
4 Only the 9 credits at the 400 level require a grade of C or better.
5 Students must complete three Eberly College of Science Cooperative Education experiences, including at least one experience which is a full semester in length.

Career Paths
Graduates with a B.S. in Science and a Master’s degree in Business Administration have successfully established careers in the science and business industries. Graduates of this unique integrated undergraduate-graduate program (IUG) are equipped to step into leadership roles instead of the more common entry-level positions of their peers. This accelerates the careers of our graduates, which leads to greater impact and higher earning potential over a lifetime.

Careers
Graduates of the B.S./M.B.A. program have pursued careers in a number of industries including, but not limited to the following:

- Consulting
- Finance
- Healthcare
- Marketing
- Medical Devices
- Pharmaceuticals
- Technology

MORE INFORMATION ABOUT POTENTIAL CAREER OPTIONS FOR GRADUATES OF THE ACCELERATED SCIENCE B.S./M.B.A. PROGRAM (http://science.psu.edu/bsmba/program-information/potential-employers)

Opportunities for Graduate Studies
For more information on the M.B.A curriculum, please visit the Smeal College of Business website (https://mba.smeal.psu.edu).

Program Learning Objectives
After completing this degree, students should be able to:

1. Use the scientific method to formulate and test hypotheses
2. Effectively communicate scientific findings to an interdisciplinary audience in written and oral formats.
3. Understand the interdisciplinary nature of science.
4. Use quantitative reasoning.
5. Understand the relationship between science and society.

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 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy)

Scranton
Margaret Hatch  
Associate Professor  
211 Dawson Building  
Dunmore, PA 18512  
570-963-2529  
mih10@psu.edu

York
Anne Vardo-Zalik  
Associate Professor of Biology  
1 Elias Science Building  
York, PA 17403  
717-718-6705  
amv12@psu.edu

Altoona
Edward Levri  
Associate Professor, Biology  
101 Elm Building  
3000 Ivyside Park  
Altoona, PA 16601  
814-949-5496  
epl1@psu.edu

Abington
Eric Ingersoll  
Program Chair  
1600 Woodland Road  
Abington, PA 19001  
215-881-7492  
epl1@psu.edu

Berks
Ike Shibley  
Program Coordinator, Associate Professor  
L101G  
Reading, PA 19610  
610-396-6185  
ias1@psu.edu

Harrisburg
Richard Ciocci
Suggested Academic Plan

Scranton Campus

General Science Option

The course series listed below provides only one of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an Academic Requirements or What If report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 15 (GWS)†</td>
<td>3</td>
<td>400 Level Option - Life/</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 110 (GN)*††</td>
<td>4</td>
<td>Mathematical/Physical Science*</td>
<td></td>
</tr>
<tr>
<td>CHEM 110</td>
<td>4</td>
<td>Option Selection - Teamwork, Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 111 (GN)</td>
<td>4</td>
<td>Option Selection - Life/</td>
<td>3</td>
</tr>
<tr>
<td>MATH 140 (GQ)*††</td>
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<td>Mathematical/Physical Science</td>
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<tr>
<td>PSU 8</td>
<td>1</td>
<td>Humanities (GH)</td>
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<td></td>
<td>16</td>
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<td>15-16</td>
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<td>16.5</td>
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</table>

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
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</tr>
</thead>
<tbody>
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<td>BIOL 220W</td>
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<td>PHYS 250*</td>
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Third Year

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<tr>
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<td>Mathematical/Physical Science</td>
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Fourth Year

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<td>Option Selection - Teamwork, Interpersonal Communication</td>
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<td>Option Selection - Life/</td>
<td>3</td>
<td>Option Selection - Life/</td>
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<td>15-16</td>
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</table>

Total Credits 128-130

* Course requires a grade of C or better for the major

‡ Course requires a grade of C or better for General Education

# Course is an Entrance to Major requirement

† Course satisfies General Education and degree requirement

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures).

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Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

Program Notes
BIOL 230W is offered alternating spring semesters

BIOL 240W is offered alternating spring semesters

Students may take PHYS 211, General Physics: Electricity and Magnetism (PHYS 212), General Physics: Fluids and Thermal Physics (PHYS 213), & General Physics: Wave Motion and Quantum Physics (PHYS 214) in place of PHYS 250 & PHYS 251

**Life Science Option**

The course series listed below provides only one of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an Academic Requirements or What If report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

### First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
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<tr>
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<td>BIOL 230W or 240W</td>
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<td>BIOL 110 (GN)‡‡</td>
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<td>CHEM 112 &amp; CHEM 113 (GN)</td>
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<td>CHEM 110 &amp; CHEM 111 (GN)‡‡</td>
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<td>MATH 141 (GQ)</td>
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<td>MATH 140 (GQ)‡‡</td>
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### Second Year

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<td>BIOL 220W</td>
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<td>CHEM 212 &amp; CHEM 213</td>
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<td>BIOL 230W or 240W</td>
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<td>CHEM 210†</td>
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<td>PHYS 251 (GN)</td>
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<td>Humanities (GH), (IL)</td>
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### Third Year

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<tr>
<td>400 Level Option - Life/ Mathematical/Physical Science*</td>
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<td>Option Selection - Teamwork, Interpersonal Communication</td>
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<td>Option Selection: Global, Social, and Personal Awareness</td>
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<td>CAS 100</td>
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<td>400 Level Selection Life Sciences*</td>
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<td>Arts (GA)</td>
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<td>ENGL 202C</td>
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<td>Health and Wellness (GHW)</td>
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<td>Option Selection</td>
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### Fourth Year

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<td>400 Level Selection - Life Science*</td>
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<td>400 Level Selection</td>
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<td>BMB 211 (or Humanities (GH))</td>
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### Total Credits 124-125

* Course requires a grade of C or better for the major
‡ Course requires a grade of C or better for General Education
# Course is an Entrance to Major requirement
‡ Course satisfies General Education and degree requirement

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Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

**Program Notes**

BIOL 230W is offered alternating spring semesters

BIOL 240W is offered alternating spring semesters

Students may take PHYS 211, General Physics: Electricity and Magnetism (PHYS 212), General Physics: Fluids and Thermal Physics (PHYS 213), & General Physics: Wave Motion and Quantum Physics (PHYS 214) in place of PHYS 250 & PHYS 251. See advisor.

BMB 211 is offered alternating spring semesters.

**York Campus**

The course series listed below provides only one of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an Academic Requirements or What If report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

### First Year

<table>
<thead>
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<th>Fall</th>
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<td>CHEM 112</td>
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<td>CHEM 110‡</td>
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<td>MATH 141</td>
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<td>MATH 140*</td>
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<td>PHYS 211 or 250*</td>
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* Course requires a grade of C or better for the major
‡ Course requires a grade of C or better for General Education
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Total Credits 119-131

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**Career Paths**

Penn State students with a BS in Science are prepared for a broad range of careers and graduate programs. The solid foundation of science and math prepares students to think critically and scientifically in a range of industries and professions.

**Careers**

This program often leads to careers in all healthcare professions, including physicians and physician assistants, dentists, optometrists, and podiatrists; laboratory research associates; scientific product representatives and science-based consulting.

**Opportunities for Graduate Studies**

Many graduates of the Science B.S. program choose to pursue graduate studies (MS and PhD) in the natural sciences. Most often, students gravitate to medically-related fields and life science sub-disciplines for focused graduate training. Students in the legal studies and public policy options may choose law school or master’s in public policy programs.

**Professional Resources**

- Association of American Medical Colleges (https://www.aamc.org)
- American Association of Colleges of Osteopathic Medicine (https://www.aacom.org)
- American Dental Education Association (http://www.adea.org)
- Association of Schools and Colleges of Optometry (https://optometriceducation.org)
- American Association of Colleges of Podiatric Medicine (http://www.aacpm.org)

**Contact**

**Scranton**

211 Dawson Building
Dunmore, PA 18512
570-963-2529
mih10@psu.edu

http://worthingtonscranston.psu.edu/science-program

**York**

1 Elias Science Building
York, PA 17403
717-718-6705
amv12@psu.edu

http://york.psu.edu/academics/baccalaureate/science

**Abington**

DIVISION OF SCIENCE & ENGINEERING
1600 Woodland Road
Abington, PA 19001
215-881-7492
epl1@psu.edu

http://abington.psu.edu/science

**Altoona**

DIVISION OF MATHEMATICS AND NATURAL SCIENCES
101 Elm Building
3000 Ivyside Park
Altoona, PA 16601
814-949-5496
epl1@psu.edu

http://altoona.psu.edu/academics/bachelors-degrees/science/request-information

**Berks**
DIVISION OF SCIENCE
Luerssen Science Building
Reading, PA 19610
610-396-6185
ias1@psu.edu

http://berks.psu.edu/bs-science

**Harrisburg**
SCHOOL OF SCIENCE, ENGINEERING, AND TECHNOLOGY
Science & Tech Building, 177 TL
Middletown, PA 17057
717-948-6358
tlh46@psu.edu

http://harrisburg.psu.edu/science-engineering-technology/biology-science/bachelor-science-science

**University Park**
**Science, B.S. Program**
SCIENCE DEGREE
225B Ritenour Building
University Park, PA 16802
814-865-7620
ram29@psu.edu

http://science.psu.edu/sciencebs

**University Park**
**Accelerated Science B.S./M.B.A. Program**
SCIENCE B.A./M.B.A.
24 Ritenour Building
University Park, PA 16802
814-863-2011
dsb30@psu.edu

http://science.psu.edu/bsmba