

BIOMEDICAL SCIENCES (PRE-PHARMACY)

Bachelor of Science (BS)

This degree map is based on the 2023-24 Academic Catalog and is subject to change. Students should meet with their academic advisor each semester and use Degree Works to monitor their individual progress toward degree completion. The time it takes to earn a degree will vary based on several factors including summer/winter enrollment, dual enrollment and number of courses successfully completed each semester. We recommend taking a minimum of 15 credits each fall and spring semester.

Sample 4-Year Plan

First Year			
Fall Courses	Credits	Spring Courses	Credits
BIOL 110 Principles of Biology 1	4	BIOL 111 Principles of Biology 2	4
CHEM 121 General Chemistry 1	4	CHEM 122 General Chemistry 2	4
FYS	3	STAT 141 Intro Statistics	3
English Writing Course 1	3	SOCI 101 Intro Sociology	3
Semester Total	14	Semester Total	14
Second Year			
Fall Courses	Credits	Spring Courses	Credits
BIOL 211 Cell Biology	4	BIOL 340 Microbiology	4
CHEM 281 Organic Chemistry 1	4	CHEM 282 Organic Chemistry 2	4
MATH160 Calculus 1	4	COMM 102 Interpersonal Communication OR COMM 103 Sm. Group Communication	3
PSCY 101 Intro to Psychology	3	BIOL 209 Genetics	3
		Biomedical Sciences Elective	1
Semester Total	15	Semester Total	15
Third Year			
Fall Courses	Credits	Spring Courses	Credits
BIOL 180 Anatomy and Physiology 1	4	BIOL 181 Anatomy and Physiology 2	4
PHYS 208 Intro to Physics 1	4	PHYS 209 Intro to Physics 2	4
CHEM 351 Biochemistry	4	*ECON 122 Macroeconomics (ECON 121 can be substituted)	3
BIOL 310 Biomedical Sciences Seminar	1	Gen Ed	3
Gen Ed	2	Free Elective	3
Semester Total	15	Semester Total	17
Fourth Year			
Fall Courses	Credits	Spring Courses	Credits
Biomedical Sciences Elective	3	Biomedical Sciences Elective	3
Biomedical Sciences Elective	3	Gen Ed	3
Free Elective	3	Gen Ed	3
Free Elective	3	Free Elective	3
Free Elective	3	Free Elective	3
Semester Total	15	Semester Total	15

Winter/Summer College - Optional

While not required, Winter and Summer sessions are offered each year and may help you stay on track or get ahead. You may take up to seven (7) credits during Winter College and up to 14 credits during Summer College.

BIOMEDICAL SCIENCES (PRE-PHARMACY)

Curriculum Checklist

Biology Core Requirements (28 credits)

- ___ BIOL 110 Principles of Biology 1 (4)
- ___ BIOL 111 Principles of Biology 2 (4)
- ___ BIOL 180 Anatomy and Physiology 1 (4)
- ___ BIOL 181 Anatomy and Physiology 2 (4)
- ___ BIOL 208 Human Genetics (3) OR BIOL 209 Genetics (3)
- ___ BIOL 211 Cell Biology (4)
- ___ BIOL 310 Biomedical Sci Seminar (1)
- ___ BIOL 340 Microbiology (4)

Related Core Requirements (50 credits)

- ___ CHEM 121 General Chemistry 1 (4)
- ___ CHEM 122 General Chemistry 2 (4)
- ___ CHEM 281 Organic Chemistry 1 (4)
- ___ CHEM 282 Organic Chemistry 2 (4)
- ___ CHEM 351 Biochemistry (4)
- ___ PHYS 208 Intro to Physics 1 (4)
- ___ PHYS 209 Intro to Physics 2 (4)
- ___ MATH160 Calculus 1 (4)
- ___ STAT 141 Intro to Statistics (3)
- ___ COMM 102 Interpersonal Communication (3) OR COMM 103 Sm. Group Communication (3)
- ___ *ECON 121 Principles of Macroeconomics (3)
- ___ PSCY 101 Introduction to Psychology (3)
- ___ SOCI 101 Introduction to Sociology (3)
- ___ WRIT 103 Foundations in Composition (3)

*ECON 122 can be substituted

Electives (10 credits)

At least 9 credits must be 300-level or above.

If BIOL 208 is used to fill the core BIOL 209 can be used as an elective.

- ___ BIOL 206 Botany (3)
- ___ BIOL 207 Zoology (3)
- ___ BIOL 208 Human Genetics (3)
- ___ BIOL 210 Genetics Laboratory (1)
- ___ BIOL 213 Intro to Parasitology (3)
- ___ BIOL 215 Investigation in Genetics and Molecular Biology (2)
- ___ BIOL 301 Ecology (4)
- ___ BIOL 314 Comparative Bio of Inverts (3)
- ___ BIOL 315 Comparative Vert. Anat. (3)
- ___ BIOL 316 Vertebrate Histology (3)
- ___ BIOL 337 Basic Virology (3)
- ___ BIOL 354 Medical Microbiology (3)
- ___ BIOL 430 Evolution (3)
- ___ BIOL 431 Mycology (3)
- ___ BIOL 432 Ornithology (3)
- ___ BIOL 433 Ichthyology (3)
- ___ BIOL 434 Herpetology (3)
- ___ BIOL 435 Conservation Genetics (3)
- ___ BIOL 442 Advanced Virology (3)
- ___ BIOL 443 Molecular Biology (3)
- ___ BIOL 444 Molecular Biology lab (1)
- ___ BIOL 445 Pharmacology (3)
- ___ BIOL 446 Immunology (3)
- ___ BIOL 350 Plant Pathology (3)
- ___ BIOL 400 Dendrology (3)
- ___ BIOL 401 Entomology (3)
- ___ BIOL 453 Freshwater Entomology (3)
- ___ BIOL 454 Algae of Freshwater Eco (3)
- ___ BIOL 455 Community Ecology (3)
- ___ BIOL 456 Enviro Toxicology (3)
- ___ BIOL 461 Animal Behavior (3)
- ___ BIOL 462 Cancer Biology (3)
- ___ BIOL 465 Medical Genomics (3)
- ___ BIOL 466 Bioinformatics (3)
- ___ BIOL 470 Tissue Culture (1)
- ___ BIOL 447 Immunology lab (1)
- ___ BIOL 448 Advanced Parasitology (3)
- ___ BIOL 450 Developmental Biology (3)
- ___ BIOL 451 Conservation Biology (3)
- ___ BIOL 452 Freshwater Ecology (3)
- ___ BIOL 475 Animal Cell Physiology (2)

Electives cont. (10 credits)

At least 9 credits must be 300-level or above.

If BIOL 208 is used to fill the core BIOL 209 can be used as an elective.

- ___ BIOL 474 Human Physiology (3)
- ___ BIOL 476 Neurophysiology (3)
- ___ BIOL 477 Plant Physiology (3)
- ___ BIOL 479 Comparative Animal Physio (3)
- ___ BIOL 480 Integrated Physiology lab (1)
- ___ BIOL 485 Senior Seminar (1)
- ___ BIOL 486 Analysis & Comm of Bio Data (3)
- ___ BIOL 489 Special Topics in Biology (3)
- ___ BIOL 493 Independent Research (1-6 crs)
- ___ BIOL 498 Internship in Biology (3-6 crs)

General Education Requirements

(45 credits)

Note: Some requirements may be fulfilled by coursework in your major program including directed Gen Ed courses noted below.

- Foundations (15 credits)
 - WRIT 103 Foundations in Composition (3)
 - COMM 102 Interpersonal Communication (3) OR COMM 103 Sm. Group Communication (3)
 - STAT 141 Intro to Statistics (3)
- Interconnections (9 credits)
 - ECON 121 (Global Perspectives) (3)
- Citizenship & Responsibility (6 credits from at least two goals)
 - SOCI 101 Introduction to Sociology (3)
- Natural World & Technologies (9 credits)
 - BIOL110 Principles of Biology 1 (4)
 - BIOL 180 Anatomy and Physiology 1 (4)
 - CHEM 121 General Chemistry 1 (4)
- Creativity & Expression (6 credits)

Degree Requirements

All students must obtain a minimum of 120 credits, complete all General Education requirements, and all requirements for the selected major. Meet with your advisor and consult Degree Works to monitor your progress and for all graduation requirements.

A minimum GPA of 2.0 in the major and overall are required.

Campus Locations

Bloomsburg Online; In-person; Blended

Lock Haven Online; In-person; Blended

Mansfield Online; In-person; Blended

Clearfield Online; In-person; Blended

Revised April, 2023