College of Health, Science and Technology
Department of Biological and Health Sciences

Bloomsburg LOCK HAVEN MANSFIELD
COMMONWEALTH UNIVERSITY

PRE-MEDICAL SCIENCES

Bachelor of Science (BS) – Biomedical Sciences

This degree map is based on the current Academic Catalog and is subject to change. Please note that the degree map is designed to give you a sense of roughly how courses might be distributed over a 4-year degree. Your exact schedule will differ depending on a range of factors though we recommend taking a minimum of 15 credits each fall and spring semester. Regular consultation with your academic advisor is the best way to make sure that you are taking the courses you need in the right order to ensure efficient progress through your degree program.

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
MATH 160 Calculus 1 or MATH 150 Essentials of Calculus	3	CHEM 121 General Chemistry 1	4
FYS 100 First year seminar	3	WRIT 103 Foundations in Composition	3
PSYC 100 Introduction to Psychology	3	SOCI 101 Principles of Sociology	3
General education	3		
Semester Total	16	Semester Total	14

Second Year			
Fall Courses	**Credits**	**Spring Courses**	**Credits**
BIOL 211 Cell Biology	4	BIOL 208 Human Genetics or BIOL 209 Genetics	3
CHEM 122 General Chemistry 2	4	CHEM 281 Organic Chemistry 1	4
General Education	3	Biomedical Sciences Elective	3
General education	3	General education	3
		General education	3
Semester Total	14	Semester Total	16

Third Year			
Fall Courses	**Credits**	**Spring Courses**	**Credits**
BIOL 340 Microbiology	4	BIOL 474 Human Physiology	3
CHEM 282 Organic Chemistry 2	4	CHEM 351 Biochemistry	4
PHYSICS 208 Introduction to Physics 1	4	PMSS 300 Pre-Medical Sciences Seminar	1
General Education	3	PHYSICS 209 Introduction to Physics 2	4
		General Education	3
Semester Total	15	Semester Total	15

Fourth Year			
Fall Courses	**Credits**	**Spring Courses**	**Credits**
Biomedical Sciences Elective	3	Biomedical Sciences Elective	3
Biomedical Sciences Elective	3	Biomedical Sciences Elective	3
General Education	3	Biomedical Sciences Elective	3
General Education	3	General Education	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-MEDICAL SCIENCES)

Bloomsburg LOCK HAVEN MANSFIELD
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Curriculum Checklist

Biology Core Requirements (23 credits)

___ BIOL 110 Principles of Biology 1 (4)
___ BIOL 111 Principles of Biology 2 (4)
___ BIOL 208 Human Genetics (3) OR BIOL 209 Genetics (3)*
___ BIOL 211 Cell Biology (4)*
___ BIOL 340 Microbiology (4)*
___ BIOL 474 Human Physiology (3)#*
___ PMSS 300 Pre-Medical Sci Seminar (1)*
#Can substitute BIOL 437;475; 476; 477; 478; 479

Related Core Requirements (37 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)*
___ MATH 150 Essentials of Calculus (3)^ OR STAT 141 Intro to Statistics (3)
(Can subsitutite MATH 160 Calculus 1 (3)^)
___ PSYC 100 Intro to Psychology (3)
___ SOCI 101 Intro to Sociology (3)

^ Enrollment in course is contingent on an ALEKS math placement score >61 or successful completion of MATH118 College Algebra with a grade of C or better.

Note: Progression through the sequence of all chemistry courses requires achievement of a minimum grade of C in pre-requisite courses.

Electives (18 credits)

At least 15 credits must be at the 300-level or above. If BIOL 474; 475; 476; 477 or 479 is used to fulfill core requirements it cannot be used to fulfill elective requirements. If BIOL 208 is used to fill the core; BIOL 209 can be taken as an elective

___ BIOL 206 Botany (3)*
___ BIOL 207 Zoology (3)
___ BIOL 209 Genetics (3)*
___ BIOL 210 Genetics Laboratory (1)*
___ BIOL 213 Intro to Parasitology (3)
___ BIOL 215 Investigations 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 350 Plant Pathology (3)*
___ BIOL 400 Dendrology (3)*
___ BIOL 401 Entomology (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 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 453 Freshwater Entomology (3)*
___ BIOL 454 Algae of Freshwater Eco (3)*
___ BIOL 455 Community Ecology (3)*
___ BIOL 456 Enviro Toxicology (3)*

Electives cont.

___ 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 473 Environmental Physiology (3)*
___ BIOL 474 Human Physiology (3)*
___ BIOL 476 Neurophysiology (3)*
___ BIOL 477 Plant Physiology (3)*
___ BIOL 479 Comparative Animal Physiology (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)
  - STAT 141 (3) OR MATH 150 (3)
- Interconnections (9 credits)
- Citizenship & Responsibility
  (6 credits from at least two goals)
- Natural World & Technologies (9 credits)
  - BIOL110 Principles of Biology 1 (4)
  - CHEM 121 General Chemistry 1 (4)
  - PHYS 208 Intro to Physics 1 (4)
- Creativity & Expression (6 credits)

Degree Requirements

All students must obtain a minimum of 120 credits (A minimum of 42 credits must be advanced course work), 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.

*Denotes advanced coursework
Students must take a minimum of 42 credits of advanced coursework. Advanced coursework can be met in major courses, minor courses, free elective courses, and general education courses. Courses that meet this requirement are designated in Banner.