

CHEMISTRY BS - PRE-MEDICINE (ASBMB)

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
MATH160 Calculus I (General Education)	4	MATH170 Calculus 2	4
CHEM121 General Chemistry 1 (General Education)	4	CHEM122 General Chemistry 2 (General Education)	4
General Education Course	3	PHYS211 General Physics 1 (General Education)	4
General Education Course -- First Year Seminar	3	General Education Course	3
Semester Total		Semester Total	
14		15	

Second Year

Fall Courses	Credits	Spring Courses	Credits
CHEM281 Organic Chemistry 1	4	CHEM282 Organic Chemistry 2	4
PHYS212 General Physics 2	4	CHEM261 Inorganic Chemistry	4
General Education Course	3	Free Elective	3
BIOL110 Principles in Biology 1	4	General Education Course	3
Semester Total		Semester Total	
15		17	

Third Year

Fall Courses	Credits	Spring Courses	Credits
CHEM341 Quantitative Analysis	4	CHEM452 Biochemistry 2	4
CHEM351 Biochemistry 1	4	BIOL209 Genetics	3
General Education Course	3	BIOL210 Genetics Lab	1
Free Elective	3	General Education Course	3
Free Elective	3	General Education Course	3
Semester Total		Semester Total	
17		14	

Fourth Year

Fall Courses	Credits	Spring Courses	Credits
CHEM371 Physical Chemistry 1	4	Free Elective	4
CHEM Elective	3	CHEM Research or Internship	1
General Education Course	3	General Education Course	3
Biology Elective	3	Biology Elective	3
Free Elective	3	Free Elective	1
Semester Total		Semester Total	
16		12	

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.

Curriculum Checklist

Fall 2023f Commonwealth Course Name

- ___ CHEM121 General Chemistry 1 (N) (4)
- ___ CHEM122 General Chemistry 2 (N) (4)
- ___ CHEM281 Organic Chemistry 1 (4)
- ___ CHEM282 Organic Chemistry 2 (4)
- ___ CHEM261 Inorganic Chemistry (4)
- ___ CHEM341 Quantitative Analysis (4)
- ___ CHEM371 Physical Chemistry 1 (4)
- ___ CHEM351 Biochemistry 1 (4)
- ___ CHEM452 Biochemistry 2 (4)
- ___ MATH160 Calculus 1 (Q) (4)
- ___ MATH170 Calculus 2 (4)
- ___ PHYS211 General Physics 1 (N) (4)
- ___ PHYS212 General Physics 2 (4)
- ___ BIOL110 Principles in Biology 1 (4)
- ___ BIOL209 Genetics (3)
- ___ BIOL210 Genetics Lab (1)
- ___ PMSS300 Pre-Medical Sciences Studies Seminar (1)
- ___ PSYC100 Intro to Psychology (3)
- ___ SOCI101 Intro to Sociology (R) (3)

Fall 2023f Commonwealth Elective Courses

Category A (1 credit)

- ___ CHEM492 Chemistry Research 1 (1)
- ___ CHEM498 Chemistry Internship (1)

Category B (4 credits)

- ___ CHEM442 Instrumental Analysis (4)
- ___ CHEM472 Physical Chemistry 2 (4)
- ___ CHEM462 Advanced Inorganic Chemistry (4)

Category C (6 credits)

- ___ BIOL211 Cell Biology (4)
- ___ BIOL337 Basic Virology (3)
- ___ BIOL340 Microbiology (4)
- ___ BIOL350 Plant Pathology (4)
- ___ BIOL411 Radiation Biology (4)
- ___ BIOL430 Evolution (4)
- ___ BIOL431 Mycology (4)
- ___ BIOL442 Advanced Virology (4)
- ___ BIOL443 Molecular Biology (4)
- ___ BIOL444 Molecular Biology Lab (4)
- ___ BIOL445 Pharmacology (4)
- ___ BIOL446 Immunology (4)
- ___ BIOL450 Developmental Biology (4)
- ___ BIOL462 Cancer Biology (4)
- ___ BIOL465: Medical Genomics (4)
- ___ BIOL466 Bioinformatics (4)
- ___ BIOL474 Human Physiology (4)
- ___ BIOL475 Animal Cell Physiology (4)
- ___ BIOL476 Neurophysiology (4)
- ___ BIOL477 Plant Physiology (4)
- ___ BIOL489 Special Topics in Biology (4)

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)
 - FYS (U): FYS100 First Year Seminar
 - Writing (W):
 - Oral Comm. (O):
 - Quantitative (Q): MATH160 Calculus 1
 - History (H):
- Interconnections (9 credits)
 - Diversity (D):
 - Global Perspectives. (G):
 - D or G or Foreign Lang. (F):
- Citizenship & Responsibility (6 credits from at least two goals)
 - Goal 1: Citizenship (S):
 - Goal 2 Ethical Reasoning (E):
 - Goal 3: Crit. Reasoning (R): SOCI101 Intro to Soc
- Natural World & Technologies (9 credits)
 - Natural World (N): CHEM121 General Chemistry 1
 - Natural World (N): CHEM122 General Chemistry 2
 - Technology (T): PHYS211 General Physics 1
- Creativity & Expression (6 credits)
 - Literature (L):
 - Arts (A) or Creativity (C):

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 | <input type="checkbox"/> Online; <input checked="" type="checkbox"/> In-person; <input type="checkbox"/> Blended |
| Lock Haven | <input type="checkbox"/> Online; <input checked="" type="checkbox"/> In-person; <input type="checkbox"/> Blended |
| Mansfield | <input type="checkbox"/> Online; <input checked="" type="checkbox"/> In-person; <input type="checkbox"/> Blended |
| Clearfield | <input type="checkbox"/> Online; <input type="checkbox"/> In-person; <input type="checkbox"/> Blended |