

# 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
		Free Elective	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)
- \_\_\_ SOC101 Intro to Sociology (R) (3)

### Fall 2023f Commonwealth Elective Courses

#### Category A (1 credit)

- \_\_\_ CHEM491 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): SOC101 Intro to Soc
  - Global Perspectives. (G):
  - D or G or Foreign Lang. (F):
- Citizenship & Responsibility  
(6 credits from at least two goals)
  - Goal 1: Citizenship (C):
  - Goal 2 Ethical Reasoning (E):
  - Goal 3: Crit. Reasoning (R):
- 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

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