

Degree: Bachelor of Science

College: Science, Technology and Business

Major: Chemistry
Major Code: CHEM
Concentration: N/A

Credits Required: 120

Minor: N/A
Minor Code: N/A

Graduation Requirements:

- Minimum 30 of the last 60 credits earned at PennWest.
- Minimum of 26 major credits must be completed at PennWest or a State System (PASSHE) university.
- Minimum Total of 42 Credits in Advanced Coursework.

General Education Program Requirements

| Foundations: (13 Credits) | Required Major Courses: (46-48 Credits) |
|---|--|
| Oral Communication (3 Credits) | □ PHYS 1500/10 General Physics Lecture □ ~Or~ PHYS 2500/10 University Physics Lab |
| Quantitative Reasoning (4 Credits) MATH 2410 Calculus I | □ PHYS 1600/10 General Physics II Lecture □ ~Or~ PHYS 2600/10 University Physics II |
| Technological Literacy (3 Credits) | ☐ CHEM 2010 Chemistry Career and Professional Development I ☐ CHEM 2200 Organic Chemistry I Lecture |
| Written Communication (3 Credits) ☐ ENGL 1200 College Composition | ☐ ~And~ CHEM 2205 Organic Chemistry I Lecture ☐ CHEM 2250 Organic Chemistry II Lecture |
| <u>Discoveries:</u> (Credits 29) At least two (2) disciplines must be represented within each of the three (3) categories. | |
| Art/Humanities (9 Credits) | □ CHEM 3300 Inorganic Chemistry I Lecture □ ~And~ CHEM 3305 Inorganic Chemistry I Lab □ ~Or~ CHEM 3315 Intermediate Chemistry I Lab |
| | ☐ CHEM 3350 Inorganic Chemistry II Lecture |
| Natural Sciences & Technology (11 Credits) | ☐ CHEM 3400 Quantitative Chemical Analysis Lecture ☐ ~And~ CHEM 3405 Quantitative Chemical Analysis Lab ☐ ~Or~ CHEM 3415 Intermediate Chemistry II Lab |
| ☐ CHEM 1108 General Chemistry I | ☐ CHEM 3450 Instrumental Analysis |
| ☐ MATH 2420 Calculus II | ☐ CHEM 4500 Physical Chemistry I Lecture ☐ ~And~ CHEM 4505 Physical Chemistry I Lab ☐ ~Or~ CHEM 4515 Intermediate Chemistry III Lab |
| Social Sciences (9 Credits) | ☐ CHEM 4550 Physical Chemistry II |
| | ☐ CHEM 4600 Biochemistry I Lecture ☐ ~And~CHEM 4605 Biochemistry I Laboratory |
| U | ☐ CHEM 4900 Chemistry Capstone |
| Elective/Wellness & Personal Health: (4 Credits) CHEM 1128 General Chemistry II | Major Electives: (6-7 Credits) Choose 4 or More Credits from: CHEM 2255, CHEM 3355, CHEM 3455, CHEM 4115, CHEM 4555, CHEM 4905, CHEM 4915 |
| | |
| Competencies: | |
| Applied Methodologies | |
| ☐ CHEM 1128 General Chemistry IIEthical Reasoning☐ | Choose at least one course from: CHEM 2800, CHEM 3250, CHEM 3270, CHEM 3290, CHEM 3370, CHEM 3650, CHEM 3670, CHEM 3900, CHEM 4200, |
| Information Literacy ☐ CHEM 3010 Chemistry Career & Professional Development II | CHEM 4250, CHEM 4650, CHEM 4670, CHEM 4700, CHEM 4750, CHEM 4800, CHEM 4950 |
| Intercultural Fluency | Free Electives: (22 Credits) |
| Keystone Experience | |
| ☐ CHEM 4900 Chemistry Capstone | |
| Quantitative Applications | |
| ☐ CHEM 1108 General Chemistry I | |
| Writing Intensive - Two (2) courses are required | |
| ☐ CHEM 2205 Organic Chemistry I Laboratory ☐ CHEM 4605 Biochemistry I Laboratory | |

Updated: 10/15/25

Suggested Four Year Course Sequence

Year 1

Fall Semester

CHEM 1108 General Chemistry I ENGL 1200 College Composition MATH 2410 Calculus I General Elective/Minor Course

Spring Semester

CHEM 1128 General Chemistry II MATH 2420 Calculus II Foundations- Oral Communications Foundations- Tech Literacy

Year 3

Fall Semester

CHEM 4500 Physical Chemistry I Lec
~And~ CHEM 4505 Physical Chemistry I Lab
~Or~ CHEM 4515 Intermediate Lab
CHEM 4600 Biochemistry I Lec
~And~ CHEM 4605 Biochemistry I Lab
Discoveries - Social Science Course
Discoveries - Natural Sci & Tech Course

Spring Semester

CHEM 3010 Chemistry Career & Prof Dev II
CHEM 3450 Instrumental Methods Lec
~And~ CHEM 3455 Instructional Methods Lab
CHEM 4550 Physical Chemistry II Lec
~And~ CHEM 4555 Physical Chemistry II Lab
~Or~ CHEM 4515 Intermediate Lab
Discoveries - Arts & Humanities Course

* Strongly advise PHYS 2500/2510 and PHYS 2600/2610 series.

Year 2

Fall Semester

CHEM 2200 Organic Chemistry I Lec
~And~ CHEM 2205 Organic Chemistry I Lab
CHEM 3400 Quantitative Chemical Analysis Lec
~And~ CHEM 4505 Physical Chemistry I Lab
~Or~ CHEM 3415 Intermediate Chemistry II Lab
PHYS 1500/10 General Physics I Lec
~Or~ PHYS 2500/10 University Physics I Lab
Discoveries-Arts & Humanities Course

Spring Semester

CHEM 2010 Chemistry Career and Professional Development I
CHEM 2250 Organic Chemistry II Lec

~And~ CHEM 2255 Organic Chemistry II Lab

~Or~ CHEM 4115 Advanced Chemistry Lab

CHEM 3300 Inorganic Chemistry I Lec

~And~ CHEM 3305 Inorganic Chemistry I Lab

~Or~ CHEM 3315 Intermediate Lab

PHYS 1600/2600 Physics II Lec *

~And~ PHYS 1610/2610 Physics II Lab *

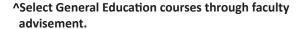
Year 4

Fall Semester

CHEM 3350 Inorganic Chemistry II Lec ~And~ Inorganic Chemistry II Lab Advanced Chemistry Elective Advanced Chemistry Lab/Research Discoveries - Social Science Course Elective Course/Minor

Spring Semester

CHEM 4900 Chemistry Capstone Advanced Chemistry Elective Discoveries - Art & Humanities Course Discoveries - Social Science Course Elective Course/Minor





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