

- Minimum 30 of the last 60 credits earned at PennWest.
- Minimum of 27 major credits must be completed at PennWest or a State System (PASSHE) university.
- Minimum Total of 42 Credits in Advanced Coursework.

## General Education

### Foundations: (16-19 Credits)

#### First Year Seminar (3 Credits)

- ☐ FYS 1000 Navigating the First Year at PennWest

#### Quantitative Reasoning (4 Credits)

- ☐ MATH 2410 Calculus I

#### Written Communication (3-6 Credits)

- ☐ ENGL 1100 Intro. to Comp. & ENGL 1200 College Comp.  
☐ Or ENGL 1200 College Composition

#### Oral Communication (3 Credits)

- ☐ \_\_\_\_\_

#### Technological Literacy (3 Credits)

- ☐ \_\_\_\_\_

### Discoveries: (27-30 Credits)

#### Arts and Humanities (6 Credits)

- ☐ \_\_\_\_\_  
☐ \_\_\_\_\_

#### Social Sciences (6 Credits)

- ☐ \_\_\_\_\_  
☐ \_\_\_\_\_

#### Natural Sciences and Technology (8 Credits)

- ☐ CHEM 1108 General Chemistry I  
☐ MATH 2420 Calculus II

#### Flex Discoveries (If DSP into ENGL 1200) (10 Credits)

- ☐ CHEM 1128 General Chemistry II  
☐ \_\_\_\_\_  
☐ \_\_\_\_\_

### Essential Skills:

#### Intensive Writing

- ☐ CHEM 2205 Organic Chemistry I  
☐ Or CHEM 4605 Biochemistry I

#### Capstone

- ☐ CHEM 4900 Chemistry Capstone

### General Education Notes:

If Directed Self-Placement (DSP) includes ENGL 1100, the student will complete 6 courses in Foundations & 8 courses in Discoveries. If DSP into ENGL 1200, the student will complete 5 courses in Foundations & 9 courses in Discoveries. DSP into ENGL 1100 reduces the number of Gen Ed Flex courses to 6 vs. 9.

## Program Requirements

### Required Major Courses: (55-57 Credits)

- ☐ PHYS 1500 General Physics I Lecture  
☐ PHYS 1510 General Physics I Laboratory  
☐ PHYS 2500/2510 University Physics III Lecture & Laboratory  
☐ PHYS 1600 General Physics II Lecture  
☐ PHYS 1610 University Physics II Laboratory  
☐ Or PHYS 2600/2610 University Physics II Lecture & Laboratory  
☐ CHEM 2200 Organic Chemistry I Lecture  
☐ CHEM 2205 Organic Chemistry I Laboratory  
☐ CHEM 2250 Organic Chemistry II Lecture  
☐ CHEM 2255 Organic Chemistry II Laboratory  
☐ CHEM 3300 Inorganic Chemistry I Lecture  
☐ CHEM 3305 Inorganic Chemistry I Laboratory  
☐ CHEM 3400 Quantitative Chemical Analysis Lecture  
☐ CHEM 3405 Quantitative Chemical Analysis Laboratory  
☐ CHEM 3450 Instrumental Methods Analysis  
☐ CHEM 4500 Physical Chemistry I Lecture  
☐ CHEM 4505 Physical Chemistry I Laboratory  
☐ CHEM 4600 Biochemistry I Lecture  
☐ CHEM 4605 Biochemistry I Laboratory  
☐ CHEM 4115 Advanced Chemistry Laboratory I  
☐ CHEM 4125 Advanced Chemistry Laboratory II  
☐ CHEM 4900 Chemistry Capstone

### Required Concentration Courses: (11 Credits)

- ☐ BIOL 1900 Introduction to Cellular and Molecular Biology  
☐ BIOL 4320 Molecular Biology  
☐ CHEM 4650 Biochemistry II

### Concentration Electives Choose One: (4 Credits)

- ☐ BIOL 2202 Genetics  
☐ BIOL 3330 Cell Biology

### Free Electives: (19 Credits)

- ☐ \_\_\_\_\_  
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## Suggested Four Year Course Sequence

### Year 1

#### Fall Semester

BIOL 1900 Introduction to Cellular and Molecular Biology  
CHEM 1108 General Chemistry I  
ENGL 1200 College Composition  
FYS 1000 Navigating the First Year at PennWest  
MATH 1410 Pre-calculus\*

#### Spring Semester

Arts and Humanities  
CHEM 1128 General Chemistry II  
MATH 2410 Calculus I  
Oral Communication  
Technological Literacy

### Year 3

#### Fall Semester

BIOL 4320 Molecular Biology  
CHEM 3400 Quantitative Chemistry Analysis Lecture  
CHEM 3405 Quantitative Chemistry Analysis Laboratory  
Free Elective  
Social Sciences

#### Spring Semester

CHEM 3450 Instrumental Methods Analysis  
CHEM 4500 Physical Chemistry I Lecture  
CHEM 4505 Physical Chemistry I Laboratory  
Free Elective  
Free Elective

#### **NOTE:**

\*MATH1410 Pre-calculus is an elective course for students not prepared to take MATH2410 in semester 1. If a student is prepared for MATH2410, they can take that in semester 1.

### Year 2

#### Fall Semester

CHEM 2200 Organic Chemistry I Lecture  
CHEM 2205 Organic Chemistry I Laboratory  
MATH 2420 Calculus II  
PHYS 1500/1510 Physics I Lecture & Laboratory  
Or PHYS 2500/2510 Physics I Lecture & Laboratory  
Social Sciences

#### Spring Semester

Arts and Humanities  
CHEM 2250 Organic Chemistry II Lecture  
CHEM 2255 Organic Chemistry II Laboratory  
CHEM 4115 Advanced Chemistry Laboratory I  
CHEM 3300 Inorganic Chemistry I Lecture  
CHEM 3305 Inorganic Chemistry I Laboratory  
PHYS 1600/1610 Physics II Lecture & Laboratory  
Or PHYS 2600/2610 Physics II Lecture & Laboratory

### Year 4

#### Fall Semester

CHEM 4600 Biochemistry I Lecture  
CHEM 4605 Biochemistry I Lab  
Concentration Elective  
Free Elective  
Free Elective

#### Spring Semester

CHEM 4650 Biochemistry II  
CHEM 4900 Chemistry Capstone  
CHEM 4125 Advanced Chemistry Laboratory II  
Flex Discoveries  
Free Elective