PennWest UNIVERSITY

Degree: Bachelor of Science
College: Science, Technology and Business
Major: Applied Computer Science
Major Code: APCS
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 30 major credits must be completed at PennWest or a State System (PASSHE) university.
- Minimum Total of 42 Credits in Advanced Coursework.

General Education

Foundations: (15 -18 Credits)

First Year Seminar (3 Credits)

- ☐ FYS 1000 First Year Seminar

Quantitative Reasoning

- ☐ MATH 1510 Discrete Structures

Writing & Communication (3-6 Credits)

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

Oral Communication (3 Credits)

- ☐ _____

Technology Literacy (3 Credits)

- ☐ CMSC 1200 Problem Solving & Programming Constructs

Discoveries: (24-27 Credits)

Arts & Humanities (6 Credits)

- ☐ _____
- ☐ _____

Social Sciences (6 Credits)

- ☐ _____
- ☐ _____

Natural Sciences & Technology (6 Credits)

- ☐ _____
- ☐ _____

Flex Discovery (If DSP into ENGL 1200) (9 Credits)

- ☐ _____
- ☐ _____
- ☐ _____

Essential Skills:

Intensive Writing

- ☐ CMSC 4900 Senior Project I: Software Engineering

Capstone

- ☐ CMSC 4920 Senior Project II

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: (27 Credits)

- ☐ CMSC 1240 Computer Programming I
- ☐ CMSC 2000 Introduction to Cybersecurity
- ☐ CMSC 2040 Object-Oriented Programming
- ☐ CMSC 3010 Structured System Documentation
- ☐ CMSC 3040 Data Structures
- ☐ CMIS 3200 Database Application Programming
- ☐ CMIS 3500 Web Programming I
- ☐ CMSC 4900 Senior Project I: Software Engineering
- ☐ CMSC 4920 Senior Project II

Major Electives: (15 Credits) Select 5 from the following:

- ☐ CMSC 3380 Python
- ☐ CMSC 3630 Machine Learning: Algorithms & Implementation
- ☐ CMSC 3700 2D Game Programming
- ☐ CMSC 3720 3D Game Programming
- ☐ CMSC 3730 Natural Language Processing
- ☐ CMSC 3740 Mobile Application Development
- ☐ CMSC 3780 Computer Graphics
- ☐ CMSC 3930 Specialized Techniques in Artificial Intelligence
- ☐ CMSC 4200 Artificial Intelligence

Free Electives: (36 Credits)

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

Updated: 7/8/2026

Suggested Four Year Course Sequence

Year 1

Fall Semester

CMSC 1200 Problem Solving & Programming Constructs
ENGL 1100 or ENGL 1200
Oral Communication Foundation
MATH 1510 Discrete Structures
FYS 1000 First Year Seminar

Spring Semester

CMSC 1240 Computer Programming I
ENGL 1200 or Gen Ed or Free Elective
Free Elective/Gen Ed to fill to 15 credits

Year 2

Fall Semester

CMSC 2040 Object-Oriented Programming
CMSC 2000 Introduction to Cybersecurity or Gen Ed or Free Elective
Free Elective/Gen Ed to fill to 15 credits

Spring Semester

CMSC 3040 Data Structures
CMSC 3010 Structured System Documentation or Free Elective or Gen Ed
Elective Options (based on availability)
CMSC 3380 Python, CMSC 3700 2D Game Programming, CMSC 3720 3D Game Programming, CMSC 3730 Natural Language Processing
Free Elective /Gen Ed to fill to 15 credits

Year 3

Fall Semester

CMIS 3200 Database Programming or CMIS 3500 Web Programming I
CMSC 2000 Introduction to Cybersecurity or Gen Ed or Free Elective
Elective Options (based on availability)
CMSC 3630 Machine Learning: Algorithms & Implementation, CMSC 3740 Mobile Application Development, CMSC 3780 Computer Graphics, CMSC 3930 Specialized Techniques in Artificial Intelligence
Free Elective/Gen Ed to fill to 15 credits

Spring Semester

CMSC 3010 Structured System Documentation or Gen Ed or Free Elective
Elective Options (based on availability)
CMSC 3380 Python, CMSC 3700 2D Game Programming, CMSC 3720 3D Game Programming, CMSC 3730 Natural Language Processing
Free Elective/Gen Ed to fill to 15 credits

Year 4

Fall Semester

CMIS 3200 Database Application Programming or CMIS 3500 Web Programming I
CMSC 4900 Senior Project I
Elective Options (based on availability)
CMSC 3630 Machine Learning: Algorithms & Implementation, CMSC 3740 Mobile Application Development, CMSC 3780 Computer Graphics, CMSC 3930 Specialized Techniques in Artificial Intelligence
Free Elective/Gen Ed to fill to 15 credits

Spring Semester

CMSC 4920 Senior Project II
CMSC 4200 Artificial Intelligence
Free Elective/Gen Ed to fill to 15 credits

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