PennWest UNIVERSITY

Degree: Bachelor of Science
College: Science, Technology, and Business
Major: Computer Science
Major Code: COSC
Concentration: N/A

Credits Required: 120
Minor: N/A
Minor Code: N/A

General Education

Foundations: (13 Credits)

Oral Communication: (3 Credits)
- ☐ COMJ 1010 Public Speaking

Quantitative Reasoning: (4 Credits)
- ☐ MATH 2410 Calculus I

Technological Literacy: (3 Credits)
- ☐ CMSC 1200 Problem Solving and Prog Constructs

Written Communication: (3 Credits)
- ☐ ENGL 1200 College Composition

Discoveries: (28 Credits)
At least two (2) disciplines must be represented within each of the three (3) categories.

Art/Humanities: (9 Credits)
- ☐ _____
- ☐ _____
- ☐ _____

Natural Sciences & Technology: (10 Credits)
- ☐ MATH 2420 Calculus II
- ☐ One class in: ATMS 1100, BIOL 2810, BIOL 3810, CHEM 1108, CHEM 1128, GEOL 1500, PHYS 2500/2510, PHYS 2600/2610.
  - ☐ _____
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  - ☐ _____

Social Sciences: (9 Credits)
- ☐ _____
- ☐ _____
- ☐ _____

Elective/Wellness & Personal Health: (3 Credits)
- ☐ CMAC 1240 or CMSC 1240 Computer Programming I

Competencies:

Applied Methodologies
- ☐ CMSC 4920 Senior Project II

Ethical Reasoning
- ☐ PHIL 3210 Engineering Ethics
  - ☐ Or CMIS 3000 Principles of Responsible Computing

Information Literacy
- ☐ CMSC 4900 Senior Project I: Software Engineering

Intercultural Fluency
- ☐ _____

Keystone Experience
- ☐ CMSC 4920 Senior Project II

Quantitative Applications
- ☐ MATH 2420 Calculus II

Writing Intensive - Two (2) courses are required
- ☐ CMSC 4900 Senior Project I: Software Engineering
- ☐ _____

Program Requirements

Required Major Courses: (51 Credits)
- ☐ CMSC 2040 Object Oriented Programming
- ☐ CMSC 2100 Logic & Switching Theory of the Computer
- ☐ CMSC 3040 Data Structures
- ☐ CMSC 3100 Assembly
- ☐ CMSC 3140 Analysis of Algorithms
- ☐ CMSC 3180 Data Communication and Networking
- ☐ CMSC 3240 Computer Architecture
- ☐ CMSC 3320 Technical Computing Using Java
- ☐ CMSC 4000 Operating Systems
- ☐ CMSC 4080 Structures of Programming Languages
- ☐ CMSC 4140 Theory of Languages
- ☐ CMSC 4180 Language Translation
- ☐ CMSC 4900 Senior Project I: Software Engineering
- ☐ CMSC 4920 Senior Project II
- ☐ MATH 1510 Discrete Structures
- ☐ MATH 3210 Linear Algebra I
- ☐ STAT 2020 Elements of Statistics

Major Electives: (9 Credits)

Select at most two (2) courses from the following:
CMSC 3340 COBOL, CMSC 3360 Fortan, CMSC 3380 Python, CMSC 3700 2D Game Programming, CMSC 3720 3D Game Programming, or CMSC 4950 Internship
- ☐ _____
- ☐ _____

Select at least one (1) course from the following:
CMSC 3200 Database Application Programming, CMSC 3780 Computer Graphics, CMSC 3990 Special Topics in Computer Science, CMSC 4120 Parallel Processing, CMSC 4200 Artificial Intelligence, or CMSC 4240 Numerical Analysis
- ☐ _____

Free Electives: (16 Credits)
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

Program Note:
Student must have a minimum grade of "C-" in the following courses:
ENGL 1200, MATH 2410, CMSC 1200, CMAC 1240, CMSC 2040, CMSC 2100, CMSC 3040, CMSC 3100, CMSC 3240, CMSC 4140, CMSC 4900, MATH 1510

Updated: 6/25/2025

Suggested Four Year Course Sequence

Year 1

Fall Semester

CMSC 1200 Problem Solving & Programming Constructs
ENGL 1200 College Composition
MATH 2410 Calculus I
Arts & Humanities/Social Sciences course
Arts & Humanities/Social Sciences course

Spring Semester

CMAC 1240 Computer Programming I
~Or~ CMSC 1240 Computer Programming I
MATH 1510 Discrete Structures
MATH 2420 Calculus II
Arts & Humanities/Social Sciences course
Writing intensive course

Year 2

Fall Semester

CMSC 2040 Object-Oriented Programming
CMSC 2100 Logic and Switching Theory
COMJ 1010 Public Speaking
Intercultural AND Arts & Humanities/Social Sciences course
Arts & Humanities/Social Sciences course

Spring Semester

CMSC 3100 Assembly Language Programming
CMSC 3040 Data Structures
MATH 3210 Linear Algebra I
Natural Science course
CMIS 3000 Principles of Responsible Computing
~Or~ PHIL 3210 Engineering Ethics

Year 3

Fall Semester

CMSC 3140 Analysis of Algorithms
CMSC 3240 Computer Architecture
CMSC 3180 Data Comm. and Networking
CMSC Elective course
Natural Science course

Spring Semester

CMSC 4000 Operating Systems
CMSC 4080 Structures of Prog. Lang.
CMSC 3320 Technical Computing using Java
STAT 2020 Elements of Statistics
Arts & Humanities/Social Sciences course

Year 4

Fall Semester

CMSC 4140 Theory of Languages
CMSC 4900 Senior Project I
CMSC Elective course
Free Elective course

Spring Semester

CMSC 4180 Language Translation
CMSC 4920 Senior Project II
CMSC Elective course
Free Elective courses

Updated: 6/25/2025