PennWest UNIVERSITY

Degree: BS
College: College of Science, Technology & Business
Major: Computer Science
Major Code: COSC
Concentration: No Concentration

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

General Education

Foundations: (13 Credits)

Oral Communication (3 Credits)

☐ COMJ 1010 Public Speaking

Written Communication (3 Credits)

☐ ENGL 1200 College Composition

Quantitative Reasoning (4 Credits)

☐ MATH 2410 Analytical Geometry and Calculus I

Technological Literacy (3 Credits)

☐ CMSC 1200 Prob. Solving & Prog. Constructs

Discoveries: (Credits 30)

Art/Humanities (9 Credits)

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Social Sciences (9 Credits)

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Natural Sciences & Technology (12 Credits)

☐ MATH 2420 Analytical Geometry and Calculus II

Choose Two: CHEM 1108 General Chemistry I or CHEM 1128 General Chemistry II or GEOL 1500 Dynamic Earth or ATMS 1100 Intro to Weather and Climate

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Program Elective: (3 Credits)

☐ CMAC 1240 Computer Programming I

Competencies:

Quantitative Applications

☐ MATH 2420 Analytical Geometry and Calculus II

Applied Methodologies

☐ CMSC 4920 Senior Project II

Intercultural Fluency

☐ ANTH 1000 Intro to Anthropology or ARTH 1200 Landmarks of World Art or ENGL 2310 American Literature Survey I or ENGL 2330 World Literature Survey I

Ethical Reasoning

☐ PHIL 3210 Engineering Ethics or CMIS 3000 Principles of Responsible Computing

Information Literacy

☐ CMSC 4900 Senior Project I

Writing Intensive

☐ CMSC 4900 Senior Project I & Any Course

Keystone Experience

☐ CMSC 4920 Senior Project II

Program Requirements

Required Major Courses: (51 Credits)

☐ CMSC 2040 Object Oriented Programming
☐ CMSC 2100 Log & Switch Theory
☐ CMSC 3040 Data Structures
☐ CMSC 3100 Assembly
☐ CMSC 3140 Analysis of Algorithms
☐ CMSC 3180 Data Comm and Network
☐ CMSC 3240 Computer Architecture
☐ CMSC 3320 Tech Computing Using Java
☐ CMSC 4000 Operating Systems
☐ CMSC 4080 Structures of Program Language
☐ CMSC 4140 Theory of Languages
☐ CMSC 4180 Language Translation
☐ CMSC 4900 Senior Project I
☐ CMSC 4920 Senior Project II
☐ MATH 1510 Discrete Structures
☐ STAT 2020 Elements of Statistics
☐ MATH 3210 Linear Algebra I

Major Electives: (9 Credits)

At most two classes from this programming electives block: CMSC 3340 COBOL, CMSC 3360 Fortran, CMSC 3380 Python, CMSC 3700 2D Game Programming, CMSC 3720 3D Game Programming, CMSC 4950 Internship

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☐ At least one class from this advanced electives block: CMSC 3200 Database Application Programming, CMSC 3780 Computer Graphics, CMSC 3990 Special Topics in CS, CMSC 4120 Parallel Processing, CMSC 4200 Artificial Intelligence, CMSC 4240 Numerical Analysis

Free Electives: (14 Credits)

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Suggested Four Year Course Sequence

Year 1

Fall Semester

CMSC 1200: Problem Solving and Programming Constructs (3 credits)
ENGL 1200: College Composition (3 credits)
MATH 2410: Analytical Geometry and Calculus I (4 credits)
Arts & Humanities/Social Sciences course (3 credits)
Arts & Humanities/Social Sciences course (3 credits)

Spring Semester

CMAC 1240: Computer Programming I (3 credits)
MAT 1510: Discrete Structures (3 credits)
MATH 2420: Analytical Geometry and Calculus II (4 credits)
Arts & Humanities/Social Sciences course (3 credits)
Writing intensive course (3 credits)

Year 2

Fall Semester

CMSC 2040: Object-Oriented Programming (3 credits)
CMSC 2100: Logic and Switching Theory (3 credits)
COMJ 1010: Public Speaking (3 credits)
Intercultural AND Arts & Humanities/Social Sciences course (3 credits)
Arts & Humanities/Social Sciences course (3 credits)

Spring Semester

CMSC 3100: Assembly Language Programming (3 credits)
CMSC 3040: Data Structures (3 credits)
MATH 3210: Linear Algebra I (3 credits)
Natural Science I (4 credits)
CMIS 3000: Principles of Responsible Computing OR PHIL 3210: Engineering Ethics (3 credits)

Year 3

Fall Semester

CMSC 3140: Analysis of Algorithms (3 credits)
CMSC 3240: Computer Architecture (3 credits)
CMSC 3180: Data Comm. and Networking (3 credits)
CMSC Elective course (3 credits)
Natural Science II (4 credits)

Spring Semester

CMSC 4000: Operating Systems (3 credits)
CMSC 4080: Structures of Prog. Lang. (3 credits)
CMSC 3320: Technical Computing using Java (3 credits)
STAT 2020: Elements of Statistics (3 credits)
Arts & Humanities/Social Sciences course (3 credits)

Year 4

Fall Semester

CMSC 4140: Theory of Languages (3 credits)
CMSC 4900: Senior Project I (3 credits)
CMSC Elective course (3 credits)
Free Elective course (3 credits)

Spring Semester

CMSC 4180: Language Translation (3 credits)
CMSC 4920: Senior Project II (3 credits)
CMSC Elective course (3 credits)
Free Elective courses (5 credits)