Pennsylvania Western University
Computer Science Advisement Sheet (Fall 2026)

General Education (42 Credits)

Foundations (16 or 19 credits) [1]

FYS 1000: First Year Seminar _____
COMM 1010: Public Speaking _____
MATH 2410: Calculus I _____
CMSC 1200: Problem Solv/Prg Constructs _____
ENGL 1200: College Composition _____
Or ENGL 1100: Intro. to Comp. & ENGL 1200 _____

Discoveries (26 or 23 credits) [1]

Arts & Humanities _____ _____
Arts & Humanities _____ _____

Social Sciences _____ _____
Social Sciences _____ _____

MATH 2420: Calculus II _____
Natural Sciences [2] _____ _____

CMSC 1240: Computer Programming I _____
MATH 1510: Discrete Structures _____
Other Flex if needed [1] _____ _____

Competencies (6 credits)

Intensive Writing: CMSC 4900 Senior Project I _____
Capstone: CMSC 4920 Senior Project II _____

Free Electives (24 credits) [3]

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Program Notes:

(1) 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 and 8 courses in Discoveries if a 4 or more credits natural sciences course is selected. Otherwise, the students will need to take one extra flex discovery course to complete the required 42 Gen. Ed. credits.

(2) Choose from: ATMS 1100, BIOL 2810 & 2811, BIOL 3810 & 3811, CHEM 1108, CHEM 1128, GEOL 1500, PHYS 2500 & 2510, PHYS 2600 & 2610. BIOL 2811 & BIOL 3811 will be counted as free electives.

(3) Student needs Free Electives to complete the 120 credits of the program.

(4) Student must have a minimum grade of "C-" in the following courses: ENGL 1200, MATH 2410, CMSC 1200, CMCS 1240, CMSC 2040, CMSC 2100, CMSC 3040, CMSC 3100, CMSC 3240, CMSC 4140, CMSC 4900, MATH 1510.

Program Requirements (54 Credits)

Required Major Courses

CMSC 2040: Object-Oriented Programming _____
CMSC 2100: Logic and Switching Theory _____
CMSC 3040: Data Structures _____
CMSC 3100: Assembly _____
CMSC 3140: Analysis of Algorithms _____
CMSC 3180: Data Comm. and Networking _____
CMSC 3240: Computer Architecture _____
CMSC 3320: Tech Computing using Java _____
CMSC 4000: Operating Systems _____
CMSC 4080: Structures of Prog. Lang _____
CMSC 4140: Theory of Languages _____
CMSC 4180: Language Translation _____
CMSC 4900: Senior Project I _____
CMSC 4920: Senior Project II _____

Required Related Courses

MATH 3210: Linear Algebra I _____
STAT 2020: Elements of Statistics _____

CMSC Elective (Choose 2 courses, at least one course from Advanced Elective and at most one course from Programming Elective)

Advanced Elective

CMIS 3200: Database Application Prog _____
CMSC 3990: Special Topics in Computer Science _____
CMSC 3780: Computer Graphics _____
CMSC 4120: Parallel Processing _____
CMSC 4200: Artificial Intelligence _____

Programming Elective

CMIS 3340: COBOL _____
CMSC 3360: FORTRAN _____
CMSC 3380: Python _____
CMSC 3700: 2D Game Programming _____
CMSC 3720: 3D Game Programming _____
CMSC 4950: Internship _____

Suggested Eight-Semester Course Sequence

Semester 1 (16 Credits) CMSC 1200: Problem Solving and Programming Constructs (3 credits) ENGL 1200: College Composition (3 credits) Or ENGL 1100: Intro. to College Composition (3 credits) MATH 2410: Calculus I (4 credits) FYS 1000 First Year Seminar (3 credits) Social Sciences course (3 credits)	**Semester 2 (16 Credits)** CMSC 1240: Computer Programming I (3 credits) MATH 1510: Discrete Structures (3 credits) MATH 2420: Calculus II (4 credits) Arts & Humanities course (3 credits) ENGL 1200 if ENGL 1100 was taken in Semester 1 Otherwise, Free Elective course
Semester 3 (16-17 Credits) CMSC 2040: Object-Oriented Programming (3 credits) CMSC 2100: Logic and Switching Theory (3 credits) COMM 1010: Public Speaking (3 credits) Natural Sciences course [(2)] (4-5 credits) Arts & Humanities course (3 credits)	**Semester 4 (15 Credits)** CMSC 3100: Assembly Language Programming (3 credits) CMSC 3040: Data Structures (3 credits) MATH 3210: Linear Algebra I (3 credits) Social Sciences course (3 credits) Gen Ed. Flex course if needed [(1)] Otherwise, Free Elective course
Semester 5 (15 Credits) 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) Free Elective or CMSC Elective course (3 credit)	**Semester 6 (15 Credits)** 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) Free Elective or CMSC Elective course (3 credits)
Semester 7 (14-15 Credits) CMSC 4140: Theory of Languages (3 credits) CMSC 4900: Senior Project I (3 credits) CMSC Elective course (3 credits) Free Elective or CMSC Elective courses (5-6 credits)	**Semester 8 (12 Credits)** CMSC 4180: Language Translation (3 credits) CMSC 4920: Senior Project II (3 credits) Free Elective or CMSC Elective courses (6 credits)