

Pennsylvania Western University
Applied Computing Advisement Sheet – No Concentration (Fall 2023)

General Education (60 Credits)

Foundations

COMJ 1010: Public Speaking _____
 ENGL 1200: College Composition _____
 MATH 1510: Discrete Structures _____
 CMAC 1200: Problem Solv/Prg Constructs _____

Discoveries (9 courses total, 1 is Intercultural*)

Phil 3000: Formal Logic _____
 Arts & Humanities _____
 Arts & Humanities _____

Social Sciences _____
 Social Sciences _____
 Social Sciences _____

MATH 2410 Analytical Geometry and Calculus _____
 STAT 2020 Elements of Statistics _____
 Natural Science & Tech _____

Elective or Wellness

CMAC 2000: Introduction to Cybersecurity _____

Competencies

Applied Methodologies
 CMAC 4920: Senior Project II _____
 Ethical Reasoning:
 CMAC 3000 Principles of Resp Computing _____
 Information Literacy:
 CMAC 4900: Senior Project I _____
 Intercultural Fluency* _____
 Keystone Experience:
 CMAC 4920: Senior Project II _____
 Quantitative Applications
 PHIL 3000: Formal Logic _____
 Writing Intensive
 CMAC 4900 Senior Project I _____
 ENGL 3230 Technical Writing _____

Free Electives (17 credits)

Program Notes:

*Choose from: ANTH 1000, ART 1200, ENGL 2310, ENGL 2330

Program Requirements (60 Credits)

Required Major Courses

CMAC 1240 Computer Programming I _____
 CMAC 2040: Object-Oriented Programming _____
 CMAC 3000: Principles of Responsible Computing _____
 CMAC 3040: Data Structures _____
 CMAC 3100: Assembly/Architecture _____
 CMAC 3140: Analysis of Algorithms _____
 CMAC 3180: Data Comm. and Networking _____
 CMAC 3200: Database App Programming _____
 CMAC 3500: Web Programming I _____
 CMAC 4000: Operating Systems _____
 CMAC 4900: Senior Project I _____
 CMAC 4920: Senior Project II _____

Required Related Courses

ENGL 3230 Technical Writing _____

CMAC Electives (Choose 7 courses – 21 credits)

CMAC 2100: Logic and Switching Theory _____
 CMAC 3320: Technical Computing Using Java _____
 CMAC 3380: Python _____
 CMAC 3580: Systems Programming _____
 CMAC 3640: Computer Forensics
 and Incident Response _____
 CMAC 3700: 2D Game Programming _____
 CMAC 3720: 3D Game Programming _____
 CMAC 3740: Mobile Application Development _____
 CMAC 3780: Computer Graphics _____
 CMAC 3830: Introduction to Machine Learning _____
 CMAC 3990: Special Topics in Applied Comp _____
 CMAC 4120: Parallel Processing _____
 CMAC 4140: Theory of Languages _____
 CMAC 4180: Language Translations _____
 CMAC 4200: Artificial Intelligence _____
 CMAC 4500: Web Programming II _____
 CMAC 4640: Information System
 Auditing and Security _____
 CMAC 4680: Security Management _____
 CMAC 4950: Internship _____

Suggested Eight-Semester Course Sequence

<p>Semester 1 (15 Credits)</p> <ul style="list-style-type: none"> • CMAC 1200: Problem Solving and Programming Constructs (3 credits) • ENGL 1200: College Composition (3 credits) • COMJ 1010: Public Speaking (3 credits) • MATH 1510: Discrete Structures (3 credits) • Arts & Humanities/Social Sciences course (3 credits) 	<p>Semester 2 (15 Credits)</p> <ul style="list-style-type: none"> • CMAC 1240: Computer Programming I (3 credits) • STAT 2020: Elements of Statistics (3 credits) • Arts & Humanities/Social Sciences course (3 credits) • ENGL 3230 Technical Writing (3 credits) • Phil 3000: Formal Logic (3 credits)
<p>Semester 3 (15-16 Credits)</p> <ul style="list-style-type: none"> • CMAC 2000: Introduction to Cybersecurity (Health and Wellness, 3 Credits) • CMAC 2040: Object-Oriented Programming (3 credits) • CMAC 3100: Assembly/Architecture (3 credits) • Math leading towards MATH 2410: Calc 1 (3-4 credits) • Intercultural AND Arts & Humanities/Social Sciences course (3 credits) 	<p>Semester 4 (15-16 Credits)</p> <ul style="list-style-type: none"> • CMAC 3000: Principles of Responsible Computing (3 credits) • CMAC 3040: Data Structures (3 credits) • CMAC Elective Course • Math leading towards MATH 2410: Calc 1 (3-4 credits) <ul style="list-style-type: none"> – If Math 2410 completed, 1 Natural Science/Tech Elective (3-4 credits) • 3 credits free electives (only 2 needed if taking MATH 2410 this term)
<p>Semester 5 (15 Credits)</p> <ul style="list-style-type: none"> • CMAC 3140: Analysis of Algorithms (3 credits) • CMAC 3180: Data Comm. and Networking (3 credits) • CMAC 3500: Web Programming 1 (3 credits) • Arts & Humanities/Social Sciences course (3 credits) • 3 Credits Free Electives 	<p>Semester 6 (15 Credits)</p> <ul style="list-style-type: none"> • CMAC 3200: Database Application Programming (3 credits) • CMAC 4000: Operating Systems (3 credits) • CMAC Elective course (3 credits) • CMAC Elective course (3 credits) • Arts & Humanities/Social Sciences course (3 credits)
<p>Semester 7 (15 Credits)</p> <ul style="list-style-type: none"> • CMAC 4900: Senior Project I (3 credits) • CMAC Elective course (3 credits) • CMAC Elective course (3 credits) • 6 Credits Free Electives 	<p>Semester 8 (15 Credits)</p> <ul style="list-style-type: none"> • CMAC 4920: Senior Project II (3 credits) • CMAC Elective course (3 credits) • CMAC Elective course (3 credits) • 6 Credits Free Electives