

Pennsylvania Western University

Applied Computing Advisement Sheet – Game 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*)

ART 1200: 3 Dimensional Design _____
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*** _____
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
** Strongly Recommend one of: ART 1106, ART 2112, ART 3208,
ART 3915, ART 3916, ART 4008, ENGL 1300, ENGL 1301, ENGL 2205,
ENGL 2400, ENGL 2260, ENGL 2270, ENGL 4400
***PHIL 3000 – Formal Logic recommended but not required

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 3200: Database App Programming _____
CMAC 3500: Web Programming I _____
CMAC 3700: 2D Game Programming _____
CMAC 3720: 3D Game Programming _____
CMAC 3740: Mobile Application Development _____
CMAC 3780: Computer Graphics _____
CMAC 4200: Artificial Intelligence _____
CMAC 4900: Senior Project I _____
CMAC 4920: Senior Project II _____

Required Related Courses

ENGL 3230 Technical Writing _____

Art/Writing Related Required Courses (Pick 2: 6 Credits)

ART 1106 Drawing I _____
ART 2112 Surface Design _____
ART 3208 Designing for the Web _____
ART 3915 2D Animation Special Topics _____
ART 3916 3D Animation Special Topics _____
ART 4008 Motion Design _____
ENGL 1300 Introduction to Literature _____
ENGL 1301 Introduction to Fiction _____
ENGL 2205 Writing in the Genres _____
ENGL 2400 Introduction to Creative Writing _____
ENGL 2260 Writing Argument and Persuasion _____
ENGL 2270 Digital Storytelling _____
ENGL 4400 Studies in Advanced Creative Writing _____

CMAC Electives (Pick 2: 6 credits)

CMAC 2100: Logic and Switching Theory _____
CMAC 3180: Data Communications and Networking _____
CMAC 3320: Technical Computing Using Java _____
CMAC 3380: Python _____
CMAC 3580: Systems Programming _____
CMAC 3640: Computer Forensics and Incident Response _____
CMAC 3830: Introduction to Machine Learning _____
CMAC 3990: Special Topics in Applied Comp _____
CMAC 4000: Operating Systems _____
CMAC 4120: Parallel Processing _____
CMAC 4140: Theory of Languages _____
CMAC 4180: Language Translations _____
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) • Art 1200: 3 Dimensional Design (3 credits) 	<p>Semester 2 (15-16 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) • Quantitative Applications Course (3-4 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 3720: 2D Game Programming • Math leading towards MATH 2410: Calc 1 (3-4 credits) <ul style="list-style-type: none"> – If Math 2410 completed, 1 Gen Ed Elective (3-4 credits) • Art/Writing Related Required Course (3 credits)
<p>Semester 5 (15 Credits)</p> <ul style="list-style-type: none"> • CMAC 3140: Analysis of Algorithms (3 credits) • CMAC 3500: Web Programming 1 (3 credits) • CMAC 4200: Artificial Intelligence (3 credits) • Art/Writing Related Required Course (3 credits) • 2 Credits Free Electives 	<p>Semester 6 (15 Credits)</p> <ul style="list-style-type: none"> • CMAC 3200: Database Application Programming (3 credits) • CMAC 3720: 3D Game Programming (3 credits) • CMAC 3780: Computer Graphics (3 credits) • Arts & Humanities/Social Sciences course (3 credits) • 3 Credits Free Electives
<p>Semester 7 (15 Credits)</p> <ul style="list-style-type: none"> • CMAC 3740: Mobile App Development (3 credits) • CMAC 4900: Senior Project I (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) • Gen ed course (3 credits) <ul style="list-style-type: none"> ○ Category depends on which category is still needed • 6 Credits Free Electives

