

**Computer Science Optional Concentrations**

GAME PROGRAMMING & DESIGN (18 CREDIT HRS)				
Course #	Course Name	Grade	Cr	Notes
<b>CORE COURSES (9 HRS)</b>				
CSCI 2510	Intro to Game Prgrmg			
CSCI 3510	Adv Game Programming			
CSCI 4620	Computer Graphics			
<b>ELECTIVE COURSES* (9 HRS)</b>				
CSCI 1280	Intro to Computational Science			
CSCI 2620	2-D Graphics and Image Processing			
CSCI 4250	Human-Comp Interaction			
CSCI 4260	User Experience Design			
CSCI 4450	Intro to Artificial Intelligence			
CSCI 4660	Automata, Comp & Formal Lang.			
CSCI 4850	Database Mgmt Systems			
ART 3140	Comp Generated Imagery			
ART 3160	Game Design as Art			
Note: Limit of 1 Non-CSCI Elective Course				
Remaining:	18	Compl:	0	

INFORMATION ASSURANCE (18 CREDIT HRS)				
Course #	Course Name	Grade	Cr	Notes
<b>CORE COURSES (6 HRS)</b>				
CYBR 3600	Info Security, Policy & Aware			
CYBR 4360	Foundations of Cybersecurity			
CSCI/CYBR 4380	Digital Forensics			
<b>ELECTIVE COURSES* (12 HRS)</b>				
CYBR 2600	Systems Administration			
CSCI/CYBR 3450	Natural Language Processing			
CSCI/MATH 4560	Nmbr Theory&Cryptography			
CYBR 3570	OR Cryptography			
CYBR 4390	Mobile Device Forensics			
CSCI/CYBR 4430	Quantum Computing and Cryptography			
CYBR 4440	Industrial Control System Security			
CYBR 4450	Host-Based Vulnerability			
CYBR 4460	Network-Based Vulnerability			
CYBR/CIST 4540	Computer Security Mgmt			
CSCI 4650	Intro to Cloud Computing			
CYBR 4360	Principles of Secure Systems Design			
Remaining:	18	Compl:	0	

INTERNET TECHNOLOGIES (18 CREDIT HRS)				
Course #	Course Name	Grade	Cr	Notes
<b>CORE COURSES (6 HRS)</b>				
CSCI 2850	Prgrmmg on the Internet			
CSCI 4650	Intro to Cloud Computing			
<b>ELECTIVE COURSES* (12 HRS)</b>				
CSCI 2830	Object Oriented Software Engr. Fund.			
CSCI 3830	Adv Java Programming			
CSCI 3850	Found of Web Search Tech			
CSCI 3450	Natural Language Proc			
CSCI 4150	Graph Theory & Applications			
CSCI 4250	Human Computer Interactions			
CYBR 4460	Network Vuln. Discovery			
CSCI 4900	Internet Systems Devlp.			
CSCI 4470	Pattern Rcnognitions			
CSCI 4850	Database Management Systems			
CSCI 4890	Data Warehousing & Data Mining			
Remaining:	18	Compl:	0	

ARTIFICIAL INTELLIGENCE (18 CREDIT HRS)				
Course #	Course Name	Grade	Cr	Notes
<b>CORE COURSES (6 HRS)</b>				
CSCI 3450 OR	Natural Language Processing			
CSCI 3470	Fund & Algorithms of Machine Learning			
CSCI 4450	Intro to Artificial Intelligence			
<b>ELECTIVE COURSES* (12 HRS)</b>				
CSCI 2410	Intro to Python and Data Analytics			
CSCI 2510	Intro to Game Programming			
CSCI 3510	Adv. Game Programming			
CSCI 3850	Foundations of Web Search Tech			
CSCI 4150	Graph Theory & Applications			
CSCI 4250	Human Comp Interaction			
CSCI 4470	Pattern Rcnognitions			
CSCI 4850	Database Management			
CSCI 4890	Data Warehousing & Data Mining			
ISQA 4010	Business Ingelligence			
MATH 4450	Machine Learning & Data Mining			
PHIL 2010	Symbolic Logic			
CSCI 3450 OR	Natural Language Processing			
CSCI 3470	Fund & Algorithms of Machine Learning			
Remaining:	18	Compl:	0	

SOFTWARE ENGINEERING (18 CREDIT HRS)				
Course #	Course Name	Grade	Cr	Notes
<b>CORE COURSES (6 HRS)</b>				
CSCI 3830	Adv Java Programming			
CSCI 4250	Human Computer Interaction			
<b>ELECTIVE COURSES* (12 HRS)</b>				
CSCI 2830	Object-Orientated Software Engineering Fund.			
CSCI 4260	User Experience Design			
CSCI 4850	Database Management Systems			
CSCI 4900	Internet Systems Development			
CIST 4910	Systems Dev. in Open Source Communities			
CSCI 4650	Intro to Cloud Computing			
CSCI 4950*	Internship in Computer Science			
Remaining:	18	Compl:	0	

\* Internship must be a software engineering position. Student should submit the job description for review and approval by the CS undergraduate Program committee

\* Elective lists are not exhaustive. Students may take other relevant courses as e  
 CSCI majors may complete the concentrations above and apply selected courses

Students are responsible for prerequisite courses.  
 Last update: March 2024  
 Advising worksheet corresponds to the 2024-2025 UNO Catalog.  
 All courses must be C- or higher