



Legend:

Course Prefix & Number | Credits | Course Name

General Education Elective | Credits

Program or Concentration Elective | Credits

C grade or better is required

BS in Computer Science

Program/Concentration Electives & General Education

2025-2026 Catalog

Program/Concentration Electives

Advanced Topics

For students who like to explore, the Advanced Topics concentration enables you to choose up to twelve hours from electives or other concentration courses to fill out your program.

Artificial Intelligence

CAP 4612 - Machine Learning Credits: 3
CAP 4613 - Applied Deep Learning Credits: 3
CAP 4410 - Computer Vision Credits: 3
CAI 4304 - Natural Language Processing Credits: 3

Big Data Analytics

COP 3729 - Database 2 Credits: 3
CAP 4770 - Data Mining & Text Mining Credits: 3
And 2 of the following courses:
CAP 4786 - Topics in Big Data Analytics Credits: 3
CAP 3774 - Data Warehousing Credits: 3
CAP 4410 - Computer Vision Credits: 3
CAP 4613 - Applied Deep Learning Credits: 3

Game Development & Simulation

CAP 4730 - Computer Graphics Credits: 3
CAP 4034 - Computer Animation Credits: 3
CAP 4052 - Game Design and Development 1 Credits: 3
CAP 4056 - Game Design and Development 2 Credits: 3

Information Assurance and Cyber Security

CIS 4362 - Applied Cryptography Credits: 3
CNT 4409 - Network Security Credits: 3
CIS 4204 - Ethical Hacking Credits: 3
CIS 4203 - Digital Forensics Credits: 3

Software Engineering

CEN 4073 - Software Requirements Engineering Credits: 3
CEN 4065 - Software Design and Architecture Credits: 3
CEN 4072 - Software Verification and Quality Assurance Credits: 3
CEN 4722 - User Interface and User Experience Credits: 3

Program/Concentration Electives

CEN 4088 - Software Security Testing Credits: 3
CAP 4122 - Virtual Reality Credits: 3
CEN 4213 - Embedded Systems Programming Credits: 3
CIS 4369 - Web Application Security Credits: 3
CNT 4409 - Network Security Credits: 3
CAP 4410 - Computer Vision Credits: 3
CNT 4526 - Wireless and Mobile Networking Credits: 3
COP 4620 - Compilers and Interpreters Credits: 3
COP 4656 - Mobile Device Applications Credits: 3
EEL 4660 - Autonomous Robotic Systems Credits: 3
CEN 4721 - Human Computer Interaction Credits: 3
CAP 4830 - Modeling and Simulation Credits: 3
COP 4930 - Special Topics Credits: 1-3
CAP 4613 - Applied Deep Learning Credits: 3
MAD 3401 - Numerical Analysis Credits: 3
MAP 2302 - Differential Equations Credits: 3
CAP 4612 - Machine Learning Credits: 3
DIG 2520 - Digital Media Production Credits: 3
COP 3809 - Advanced Topics in Programming Credits: 3
COP 3834 - Web Application Development Credits: 3

Any Computer Science concentration course outside of a pursued concentration.

General Education

Arts & Humanities

Program Required:
IDS 2144 - Legal, Ethical, and Management Issues in Technology

At least one course (3 credits) from the following state required arts & humanities list:

ARH 2000 - Art Appreciation Credits: 3
HUM 2020 - Introduction to the Humanities Credits: 3
LIT 2000 - Introduction to Literature Credits: 3
PHI 2010 - Introduction to Philosophy Credits: 3
MUL 2010 - Music Appreciation Credits: 3

Social Sciences

At least one course (3 credits) from the following state required social sciences list:

AMH 2010 - American History to 1877 Credits: 3 (Fulfills Civic Literacy Requirement)
AMH 2020 - American History Since 1877 Credits: 3 (Fulfills Civic Literacy Requirement)
ECO 2013 - Principles of Macroeconomics Credits: 3
POS 2041 - American Government Credits: 3 (Fulfills Civic Literacy Requirement)
PSY 2012 - General Psychology Credits: 3

Optional additional course electives:

ECO 2023 - Principles of Microeconomics Credits: 3

Natural Sciences

At least two courses (3 credits each) and their corresponding lab (1 credit each) from the following state required list:

CHM 2045 - Chemistry 1 Credits: 3
CHM 2045L - Chemistry 1 Laboratory Credits: 1
PHY 2048 - Physics 1 Credits: 3
PHY 2048L - Physics 1 Laboratory Credits: 1
CHM 2046 - Chemistry 2 Credits: 3
CHM 2046L - Chemistry 2 Laboratory Credits: 1
PHY 2049 - Physics 2 Credits: 3
PHY 2049L - Physics 2 Laboratory Credits: 1
EVR 2001 - Environmental Science Credits: 3
EVR 2001L - Environmental Science Laboratory Credits: 1

