Bachelor of Science in Computer Science
Computer Science Track (effective Fall 2023)

MAC 2311* Calculus I (4 credits)

Natural^ Science Group 1 Elective
See Advisor

Natural^ Science Group 2 Elective
See Advisor

COP 2210 Programming I (4 credits)

CGS 1920 Introduction To Computing (1 credit)

MAC 2312 Calculus II (4 credits)

MAD 2104* Discrete Math

COT 3100* Discrete Structures

OR

COP 3337 Programming II

CGS 3095 Technology in the Global Arena (GL)

STA 3033 Probability & Statistics

MAC 2312 Calculus II (4 credits)

CDA 3102 Computer Architecture

COP 4338 Systems Programming

COT 3100* Discrete Structures

COP 3530 Data Structures

CIS 3950 Capstone I (1 credit) [Junior standing]

CIS 4951 Capstone II (2 credits) [Senior standing]

CIS 3102 Operating Systems

COP 4610 Operating Systems

COP 4713 Net Centric Computing

COP 4555 Programming Languages

CS Electives (7 courses): Must take at least one course from each elective group (most electives are 3 credits). Remaining four elective courses must be taken from these elective groups.

Foundations
- CAP 4506-Intro to Game Theory (Prereq: MAC2312)
- COP 4534-Algorithm Techniques (Prereq: COP3530)
- COT 3510-Applied Linear Structures (Prereq: COP3530)
- COT 3541-Logic for CS (Prereq: COP3337 & COT3100)
- COT 4521-Intro to Computational Geometry (Prereq: COP3530)
- COT 4601-Fundamentals of Quantum Computing (Prereq: COP3530 & COT3100)
- MAD 3301-Graph Theory (Prereq: COP2210 & COP2210 or MAD2104)
- MAD 3401-Numerical Analysis (Prereq: COP2210, MAC2312)
- MAD 3512-Theory of Algorithms (Prereq: COP3530)
- MAD 4203-Combinatorics (Prereq: MAD2104, MAD2312)
- MTH 4302-Math Logic (Prereq: MTH3512)

Systems
- CAP 4453-Robot Vision (Prereq: COP3530, MAC2312)
- CDA 4625-Intro to Mobile Robotics (Prereq: COP3530, STA3033)
- CEN 4083-Cloud Computing (Prereq: CNT4713 and (CDA3102 or CDA4101))
- CIS 4203-Digital Forensics (Prereq: COP2210/COP2250/EE32880)
- CIS 4731-Fund Blockchain Technologies (Prereq: COP3530)
- COP 4520-Intro to Parallel Computing (Prereq: COP3530 and (CDA3102 or CDA4101 or EEL4709))
- COP 4604-Advanced UNIX Programming (Prereq: COP4610)
- COP 4710-Database Management (Prereq: cop3337; Coreq: COP3530)
- COP 4751-Advanced Database Management (Prereq: COP4710)
- CTS 4408-Database Administration (Prereq: COP4710)
- COT 4431-Parallel Computing (Prereq: COP3530 and (CDA3102 or CDA4101 or EEL4709)

Applications
- CAP 4062-Game Design & Dev (Prereq: (STA2023 or STA3033) and COP3530 and COP4104)
- CAP 4104-Human Cmpt Interaction (Prereq: COP3337)
- CAP 4612-Introduction to Machine Learning (Prereq: COP3530, STA3033)
- CAP 4630-Artificial Intelligence (Prereq: COP3530)
- CAP 4641-Nat Lang Processing (Prereq: COP3530)
- CAP 4710-Computer Graphics (Prereq: COP3337, MAC2312)
- CAP 4770-Intro to Data Mining (Prereq: STA2023/2122/3033/4222 and COP3530/3445)
- CAP 4830-Modeling & Simulations (Prereq: STA2023 or STA3033) and COP3530
- CEN 4021-Software Engineering II (Prereq: CEN4010)
- CEN 4072-Software Testing (Prereq: COP3530)
- COP 4226-Adv Windows Program (Prereq: COP3530)
- COP 4655-Mobile App Dev (Prereq: CAP4104 and CEN4010)

* Prerequisites:
- COP2210: MAC1140 or higher level math course
- COT3100: Prereq: MAC XXXX and COP XXXX (any MAC course and any COP course)
- Coreq:(COP2210 or COP2250 or EEL2280)
- ENC3249/ENC3213: UCC English requirements
- MAC2311: MAC1147
- MAD2104: MAC1105 or MGF1106
- KFSCS approved Science electives with lab

A direction line indicates a prerequisite. The course above must be completed before the course below can be taken.

A diamond indicates a co-requisite. The course closer to the diamond may be taken at the same time as the co-requisite. The co-requisite is a prerequisite for any course that requires the course closer to the diamond.