Bachelor of Science in Computer Science
Software Design and Development Track (effective Fall 2023)

MAC 2311* Calculus I (4 credits)
MAC 2312 Calculus II (4 credits)
STA 3033 Probability & Statistics

MAD 2104* Discrete Math
COT 3100* Discrete Structures

COP 2210 Programming I (4 credits)
COP 3337 Programming II

COP 4610 Operating Systems
CNT 4713 Net Centric Computing
COP 4555 Programming Languages
CEN 4072 Software Testing

CIS 3950 Capstone I (1 credit) [Junior standing]
CEN 4010 Software Engineering I
CEN 4021 Software Engineering II

CS Electives (5 courses): Must take at least one course from Foundations group and one from Systems group. Remaining three elective courses must be taken from these elective groups (most electives are 3 credits).

Foundations
- CAP 4506-Intro to Game Theory (Prereq: MAC2312)
- COP 4534-Algorithms & Data Structures (Prereq: COP3530)
- COT 3510-Linear Algebra (Prereq: COT3100 or MAD2104)
- COT 3541-Logic for CS (Prereq: COP337 & COT3100)
- COT 4521-Intro to Computational Geometry (Prereq: COP3530)
- COT 4601-Quantum Computing (Prereq: COP337 or COP304 and COT3100)
- MAD 3301-Graph Theory (Prereq: COP2210 & COT3100 or MAD2104)
- MAD 3401-Number Theory (Prereq: COP2210, MAD2104)
- MAD 3512-Theory of Algorithms (Prereq: COP3530)
- MAD 4203-Combinatorics (Prereq: MAD2104)
- MTH 4302-Math Logic (Prereq: MAD3512)

Systems
- CAP 4453-Computer Graphics (Prereq: COP3530, MAC2312)
- CDA 4625-Intro to Mobile Robotics (Prereq: COP3530)
- CAP 4710-Parallel Computing (Prereq: COP3530)
- COP 4751-Advanced Database Management (Prereq: COP4710)
- COP 4413-Parallel Computing (Prereq: COP3530)
- CSE 4408-Advanced UNIX Programming (Prereq: COP4610)

Applications
- CAP 3502-Game Design & Dev (Prereq: STA2023 or STA3033 and COP3530 and COP4710)
- CAP 4614-Computer Graphics (Prereq: STA3033, MAC2312)
- CAP 4800-Intro to Data Mining (Prereq: COP3530, Coreq: COP4710)
- CAP 4800-Advanced UNIX Programming (Prereq: COP4610)

* Prerequisites:
  - COP2210: MAC1140 or higher level math course
  - COP3337: MAC XXXX and COP XXXX
  - COP2210: (MAC course and any COP course)
  - COP3337: UCC English requirements
  - COP2117: COP3530
  - COP2114: MAC1105 or MGF1106
  - KFSCIS 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.