Bachelor of Science in Computer Science
Computer Science Track (effective 08/01/2020)

**Prerequisites:**
- ENC3249/ENC3213: UCC English requirements
- MAC2311: MAC1147
- COT3100 & MAD2104: MAC1105
- COP2210: MAC1140 or higher level math course

**Natural Science Electives:** lab not needed unless required by offering dept.

**Natural Science Elective**
See PDA or Advisor

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**MAC 2311**
Calculus I (4 credits)

**MAC 2312**
Calculus II (4 credits)

**PHY 2048/2048L**
Physics w/Calculus I (5 credits)

**PHY 2049/2049L**
Physics w/Calculus II (5 credits)

**MAD 2104**
Discrete Math

**COT 3100**
Discrete Structures

**CDA 3102**
Computer Architecture

**COP 4338**
Systems Programming

**COP 3337**
Programming II

**COP 3530**
Data Structures

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

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

**CEN 4010**
Software Engineering I

**COP 2210**
Introduction To Computing (1 credit)

**CIS 1920**
Introduction to Computing (1 credit)

**ENC 3249** or **ENC 3213**
Professional & Technical Writing (GRW)

**CGS 3095**
Technology in the Global Arena (GL)

**COP 4610**
Operating Systems (COP4338 and CDA3102/CDA4101)

**STA 3033**
Probability & Statistics

All courses are 3 credits, except as noted.

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**CS Electives (9 courses): Must take at least one course from each elective group** (most electives are 3 credits). Remaining six elective courses must be taken from these elective groups.

**Foundations**
- CAP 4506-Intro to Game Theory (Prereq: MAC2312)
- COP 4534-Algorithm Techniques (Prereq: COP3530)
- COP 4555-Programming Languages (Prereq: COP3530)
- COT 3541-Logic for CS (Prereq: COP3337 & COT3100)
- COT 4521-Intro to Computational Geometry (Prereq: COP3530)
- MAD 3305-Graph Theory (Prereq: COP2210, MAD2104)
- MAD 3401-Numerical Analysis (Prereq: COP2210, MAC2312)
- MAD 3512-Theory of Algorithms (Prereq: COP3530)
- MAD 4203-Combinatorics (Prereq: MAD2104, MAC2312)
- MHF 4302-Math Logic (Prereq: MAD3512)

**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 4731-Fund Blockchain Technologies (Prereq: COP3530)
- CNT 4713-Net Centric Computing (Prereq: COP4338)
- COP 4520-Intro to Parallel Computing (Prereq: COP4338 and (CDA3102 or CDA4101))
- COP 4604-Advanced UNIX Programming (Prereq: COP4610)
- COP 4710-Database Management (Prereq: cop3337; Coreq: COP3530)
- COP 4722-Survey of Database Systems (Prereq: COP4710)
- COT 4431-Applied Parallel Computing (Prereq: COP3530 and CDA3102/CDA4101)
- COTS 4408-Database Administration (Prereq: COP4710)

**Applications**
- CAP 4104-Human Cmpt Interaction (Prereq: COP337)
- 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: COP3530, Coreq: COP4710)
- 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) or (CEN3721 and COP4814)

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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.