



**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-Algorithm Techniques (Prereq: COP3530)
- COT 3510-Applied Linear Structures (Prereq: see syllabus; Coreq: COT3100 or MAD2104)
- COT 3541-Logic for CS (Prereq: COP3337 & COT3100)
- COT 4521-Intro to Computational Geometry (Prereq: COP3530)
- COT 4601-Fundamentals of Quantum Computing (Prereq: (COP3337 or COP3804) and COT3100)
- MAD 3301-Graph Theory (Prereq: COP2210 & (COT3100 or 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 4203-Digital Forensics (Prereq: COP2210/COP2250/EEL2880)
- 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)
- COT 4431-Applied Parallel Computing (Prereq: COP3530 and (CDA3102 or CDA4101 or EEL4709))
- CTS 4408-Database Administration (Prereq: COP4710)

**Applications**

- CAP 4052-Game Design & Dev (Prereq: (STA2023 or STA3033) and COP3530 and CAP4104)
- CAP 4104-Human Cmptr 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: COP3530, Co-req: COP4710)
- CAP 4830-Modeling & Simulations (Prereq: (STA2023 or STA3033) and 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 COP 2250 or EEL2280)
- ENC3249/ENC3213: UCC English requirements
- MAC2311: MAC1147
- MAD2104: MAC 1105 or MGF1106
- <sup>^</sup> KFSCIS approved Science electives with lab

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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.