



**CS Electives (choose three)**

All courses are 3 credits, except as noted.

|   |  |  |  |   |  |
|---|--|--|--|---|--|
| <b>CAP 4104</b><br><i>Human Cmptr Interaction</i><br>Pre: COP3337                     | <b>CAP 4453</b><br><i>Robot Vision</i><br>Pre: COP3530 & MAC2312             | <b>CAP 4506</b><br><i>Intro to Game Theory</i><br>Pre: MAC2312       | <b>CAP 4630</b><br><i>Artificial Intelligence</i><br>Pre: COP3530    | <b>CAP 4641</b><br><i>Natural Lang Processing</i><br>Pre: COP3530         | <b>CAP 4710</b><br><i>Computer Graphics</i><br>Pre: COP3337, MAC2312   |
| <b>CAP 4770</b><br><i>Introduction to Data Mining</i><br>Pre: COP3530<br>Co: COP 4710 | <b>CDA 4625</b><br><i>Intro to Mobile Robotics</i><br>Pre: COP3530 & STA3033 | <b>CEN 4021</b><br><i>Software Engineering II</i><br>Pre: CEN4010    | <b>CEN 4072</b><br><i>Software Testing</i><br>Pre: COP3530           | <b>CEN 4083</b><br><i>Cloud Computing</i><br>Pre: CNT4713, CDA4101        | <b>COP 4226</b><br><i>Advanced Windows Programming</i><br>Pre: COP3530 |
| <b>COP 4520</b><br><i>Intro to Parallel Computing</i><br>Pre: COP3530, CDA4101        | <b>COP 4534</b><br><i>Algorithm Techniques</i><br>Pre: COP3530               | <b>COP 4604</b><br><i>Advanced UNIX Programming</i><br>Pre: COP 4610 | <b>COP 4722</b><br><i>Survey of Database Systems</i><br>Pre: COP4710 | <b>COT 4521</b><br><i>Intro to Computational Geometry</i><br>Pre: COP3530 | <b>MAD 3305</b><br><i>Graph Theory</i><br>Pre: COP2210, MAD2104        |
| <b>MAD 3401</b><br><i>Numerical Analysis</i><br>Pre: COP2210, MAC2312                 | <b>MAD 4203</b><br><i>Combinatorics</i><br>Pre: MAD2104, MAC2312             | <b>MHF 4302</b><br><i>Math Logic</i><br>Pre: MAD 3512                |  |   |  |

↓ A 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.

⊙ A junction is where multiple prerequisites are joined.

\* 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.