Student ID:_____	**Catalog: 2021-22 College of Liberal Arts**
Student Name:_____	**Program: Computer Science Major**
Adviser Name:_____	**Minimum Credits Required:**_____

Computer Science Major

Meet the Faculty

The Department of Mathematics and Computer Science offers a computer science major that develops students' ability to design and implement computer programs to solve many types of problems. Based on curricula developed by the Association for Computing Machinery (ACM), the major prepares students for graduate study and for many interesting careers in the computer industry. The computer science minor complements any major for which computer applications are important. The minor also gives students excellent preparation for many computer-related occupations.

Major Requirements (12 courses and 1 lab)

The computer science major requires twelve (12) courses and one (1) lab:

- Six (6) courses and one (1) lab emphasizing core skills in computer science,
- programming, and software development
- Two (2) courses in mathematical topics
- Four (4) electives

Students beginning the major should take CMS 120 in the first semester and, if necessary, a course that satisfies the Math Competency requirement. MAT 103 Statistical Reasoning is the recommended competency course for most students. Those interested in the Mathematics major or minor and those considering graduate study in computer science should take MAT 111 Calculus I . Most students will then take CMS 121 and MAT 140 in the second semester.

Core Courses

Six courses and one lab emphasizing the core skills in computer science, programming, and software development.

Course Name	Crs:	Term Taken	Grade	Gen Ed
CMS 120 - Introduction to Computer Science				
CMS 120L - Introduction to Computer Science Lab *Co-requisite(s):* CMS 120				
CMS 121 - Programming and Software Development *Prereq(s):* CMS 120				
CMS 230 - Computer Organization and Architecture *Prereq(s):* CMS 121				
CMS 250 - Data Structures and Algorithms *Prereq(s):* CMS 121				
CMS 270 - Object-Oriented Design and Development *Prereq(s):* CMS 121				
CMS 484 - Computer Science Capstone *Prereq(s):* one 300-level CMS course.				

Mathematical Topics (2 courses)

One course in discrete mathematics

Course Name	Crs:	Term Taken	Grade	Gen Ed
MAT 140 - Introduction to Discrete Mathematics				

One add'l course emphasizing mathematical topics

Course Name	Crs:	Term Taken	Grade	Gen Ed
BIO 341 - Molecular Biology *Prereq(s):* BIO 121 and CHM 220/220L.				
CMS 310 - Theoretical Foundations of Computer Science *Prereq(s):* CMS 120 and MAT 140				
CMS 380 - Simulation and Stochastic Modeling *Prereq(s):* CMS 121				
CMS 460 - Algorithms *Prereq(s):* CMS 270 and MAT 140.				
DTA 250 - Fundamentals of Data Science and Analytics				
PHY 220 - Math Methods for Physical Sciences I *Prereq(s):* MAT 112 or equivalent preparation.				
PSY 255 - Statistics and Research Methods II with Laboratory *Prereq(s):* PSY 250.				

Co-requisite(s): PSY 255L.				
Also allowed: Any MAT course numbered 200 or higher (MAT 230 Linear Algebra) is recommended or other courses at the discretion of the Computer Science faculty				

Electives (4)

At least one elective must be at the 400-level. At most one may be at the 200-level.

Students considering graduate study in computer science should complete the following as part of or in addition to the major requirements.

- A minor or second major in Mathematics
- CMS 310 Theoretical Foundations of Computer Science
- CMS 330 Operating Systems
- CMS 460 Algorithms

Notes: