Computer Science, B.S. *major*

Required Credits: 54
Required GPA: 2.25

I REQUIRED CORE COURSES

Complete the following courses:

- CS 1310 Computational Problem Solving & Society (3 credits)
- CS 2321 Computer Science I (4 credits)
- CS 2322 Computer Science II (4 credits)
- CS 3528 Data Structures and Algorithms (4 credits)
- CS 4390 Social, Ethical, and Professional Issues in Computing (3 credits)
  or BUAD 3520 Business Ethics (3 credits)
- COMM 1100 Public Speaking (3 credits)
  or COMM 2100 Career and Professional Communication (3 credits)
- MATH 1170 College Algebra (3 credits)
  or MATH 1470 Precalculus (3 credits)
  or MATH 2471 Calculus I (5 credits)

II ELECTIVE COURSES

Choose 19 credits from the following courses:
(may include other CS course from the 3000 or 4000 level, excluding Internship and Teaching Associate)

- CS 3270 Web Programming (4 credits)
- CS 3350 Event-Driven Programming in a Windows Environment (3 credits)
  or BUAD 3382 Business Application Development (3 credits)
- CS 3370 Mobile Application Development (3 credits)
- CS 3380 Game Development (3 credits)
- CS 3507 Introduction to Databases (3 credits)
  or BUAD 4385 Data Modeling and Visualization (3 credits)
- CS 3752 Data Mining (3 credits)
- MATH 3720 Numerical Methods (3 credits)
- GEOG 3231 Introduction to Geographic Information Systems (3 credits)
- GEOG 3232 Intermediate Geographic Information Systems (3 credits)
- GEOG 4150 Applications of Machine Learning (3 credits)
- GEOG 4265 Spatial Analysis (3 credits)

III OTHER REQUIRED COURSES

Complete the following courses:

- MATH 2210 Discrete Mathematics (4 credits)
- MATH 3310 Linear Algebra (4 credits)
  or STAT 2610 Applied Statistics (4 credits)
  or STAT 3631 Probability and Statistics I (4 credits)

Select one of the following courses:

- ENGL 2150 Technical Writing (3 credits)
- ENGL 3150 Writing In The Disciplines (3 credits)
- ENGL 3155 Professional Writing (3 credits)

Program Learning Outcomes | Computer Science, B.S.

1. Problem solving: Students will demonstrate understanding of multiple problem solving techniques and how to apply them algorithmically.

2. Core areas: Students will demonstrate knowledge of core areas and how to apply them towards solving problems in computer science and other disciplines.

3. Communication: Students will communicate effectively with a wide range of audiences.

4. Productive in teams: Students will work productively in teams.

5. Broad knowledge of field: Students will demonstrate a broad knowledge of the field through the different electives offered.

6. Professional and ethical: Students will develop a basis for making professional and ethical decisions that pertain to the software they are developing.

7. Programming languages: Students will demonstrate proficiency in a programming language and ability to learn new ones on their own.

Suggested Semester Schedule | Computer Science, B.S.

The following schedule identifies only courses that apply to the Computer Science major. Students should expect to complete most lcore curriculum requirements in their first three years. To complete requirements for graduation in four years (8 semesters), a Computer Science major must take CS 1309 in one of the first two semesters.

Freshman

- CS 1310 Computational Problem Solving & Society (3 credits)
- CS 2321 Computer Science I (4 credits)
- #MATH 1170 College Algebra (3 credits)
- MATH 1470 Precalculus (3 credits)
  or MATH 2471 Calculus I (5 credits)
- COMM 1100 Public Speaking (3 credits)

Sophomore

- CS 2322 Computer Science II (4 credits)
- CS 2810 Computer Organization and Assembly Language Programming (3 credits)
- MATH 2210 Discrete Mathematics (4 credits)
- MATH 3310 Linear Algebra (4 credits)
  or STAT 2610 Applied Statistics (4 credits)
  or STAT 3631 Probability and Statistics I (4 credits)
- +ENGL 2150 Technical Writing (3 credits)

Junior

- CS 3528 Data Structures and Algorithms (4 credits)
- Computer Science electives

Senior

- CS 4390 Social, Ethical, and Professional Issues in Computing (3 credits)
- Computer Science electives

Mathematics requirements for the Computer Science major begin with MATH 1470 Precalculus, but some students will be initially placed into MATH 1170 College Algebra.
+ May be any of the following courses: ENGL 2150, ENGL 3150, ENGL 3155.