Bachelor of Science:  
Major in GIS + CS  
2021- 2022 Catalog Year

University Core Requirements

**English:** 6 hours (Grades of C or better)  
ENGL 1310 or TECM 1700  
ENGL 1320 or TECM 2700  
**Math:** 3 hours (Grades of C or better for major)  
MATH 1650 (Requires MATH 1100)

**Life & Physical Sciences:** 6 hours  
See approved list (GEOL 1610 & GEOG 1710 recommended)

**Creative Arts:** 3 hours  
See approved list

**Language, Philosophy & Culture:** 3 hours  
See approved list

**American History:** 6 hours  
HIST 2610  
HIST 2620

**Government/ Political Science:** 6 hours  
PSCI 2305  
PSCI 2306

**Social & Behavioral Sciences:** 3 hours  
See approved list (GEOG 1200 recommended)

**Component Area Option Course:** 6 hours  
See approved list

Major Requirements

**GIS Core (18 hours):**  
GEOG 3500: Introduction to GIS  
GEOG 4550: Advanced GIS  
GEOG 4560: Introduction to Python Programming  
GEOG 4590: Advanced GIS Programming  
GEOG 4570: Special Topics in GIS (Various Options)

Choose one elective from the 3 options below:  
GEOG 4195: Geospatial Data Analytics and Visualization  
GEOG 4230: Location Intelligence: Business GIS Concepts and Applications  
GEOG 4230: Introduction to Artificial Intelligence (Elective)

**Computer Science Core (13 hours):**  
CSCE 1035: Information Systems I  
CSCE 1045: Information Systems II  
CSCE 2100: Foundations of Computing  
CSCE 2110: Foundations of Software Development

**Tracks within the major (select one track below):**

**Computer Science Track (3 hours required & 12 hours electives):**  
CSCE 3110: Data Structures 3 (Required)  
CSCE 4110: Algorithms (Elective)  
CSCE 4201: Introduction to Artificial Intelligence (Elective)  
CSCE 4205: Introduction to Machine Learning (Elective)  
CSCE 4350: Fundamentals of Database Systems (Elective)  
CSCE 4380: Data Mining (Elective)  
CSCE 4230: Introduction to Computer Graphics (Elective)  
CSCE 3850: Introduction to Computational Life Science (Elective)  
CSCE 4810: BioComputing (Elective)  
CSCE 4820: Computational Epidemiology (Elective)

**Information Technology Track (6 hours required & 9 hours electives):**  
CSCE 3055: IT Project Management (Required)  
CSCE 3615: Enterprise Systems Architecture and Design (Required)  
CSCE 4350: Fundamentals of Database Systems (Elective)  
CSCE 3420: Internet Programming (Elective)  
CSCE 3220: Human Computer Interfaces (Elective)  
CSCE 3600: Principles of Systems Programming (Elective)  
CSCE 3530: Introduction to Computer Networks (Elective)  
CSCE 3550: Introduction to Computer Security (Elective)  
CSCE 3850: Introduction to Computational Life Science (Elective)  
CSCE 4810: BioComputing (Elective)  
CSCE 4820: Computational Epidemiology (Elective)

*15 hours are required in one of the tracks listed above. Blending courses from tracks requires faculty advisor approval beforehand.  
See Academic Advisor to discuss track selection, course prerequisites & course sequencing.

Academic Advising

To schedule an appointment with a CLASS Academic Advisor, please call 940-565-2051 or visit https://unt.navigate.eab.com/  
GIS + CS Undergraduate Advisor:  
Lu Liang (Lu.Liang@unt.edu)  
https://geography.unt.edu/bachelors-science-gis-cs

Additional Information

Some courses may require Department Consent for non-CSCE majors using override request: https://computerscience.engineering.unt.edu/overrides