Bachelor of Science: Major in GIS + CS 2024- 2025 Catalog Year

Requirements

- 120 total semester hours
- 42 advanced hours
  - 24 advanced hours must be completed at UNT, including 12 advanced hours in your major
- Minimum of 30 hours must be completed at UNT
- Grades of C or better in all major coursework

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 _____ _____

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:
John South (John.South@unt.edu)
https://geography.unt.edu/bachelors-science-gis-cs

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Major Requirements

Required Courses (46 hours)

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

Choose one elective from the four options below:
GEOG 4195: Geospatial Data Analytics and Visualization
GEOG 4230: Location Intelligence: Business GIS Concepts and Apps.
GEOG 4530: Digital Image Analysis
GEOG 4580: GIS in Health

Computer Science Core (13 hours):
CSCE 1030: Computer Science I
CSCE 1040: Computer Science II
or
CSCE 1035: Computer Programming I
CSCE 1045: Computer Programming II

CSCE 2100: Foundations of Computing
CSCE 2110: Foundations of Data Structures

Tracks within the major (select one track below):

Computer Science Track (3 hours required & 12 hours electives):
CSCE 3110: Data Structures and Algorithms (Required)
CSCE 3850: Introduction to Computational Life Science (Elective)
CSCE 4110: Algorithms (Elective)
CSCE 4201: Introduction to Artificial Intelligence (Elective)
CSCE 4205: Introduction to Machine Learning (Elective)
CSCE 4230: Introduction to Computer Graphics (Elective)
CSCE 4350: Fundamentals of Database Systems (Elective)
CSCE 4380: Data Mining (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 3220: Human Computer Interfaces (Elective)
CSCE 3420: Internet Programming (Elective)
CSCE 3530: Introduction to Computer Networks (Elective)
CSCE 3550: Foundations of Cybersecurity (Elective)
CSCE 3600: Principles of Systems Programming (Elective)
CSCE 3850: Introduction to Computational Life Science (Elective)
CSCE 4350: Fundamentals of Database Systems (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, and course sequencing.*

Additional Information

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