

COMPUTER SCIENCE, B.S.

The B.S. degree in Computer Science program is accredited by the Computing Accreditation Commission of ABET (www.abet.org (<http://www.abet.org>)).

Students must maintain a grade point average of at least 2.0 in the core courses, required electives, and required supporting discipline courses.

Because computer science courses change rapidly, it is recommended that the sequence CSC 130 Introduction to Computer Science, CSC 230 Elementary Data Structures and Algorithms, CSC 330 Advanced Data Structures be completed within 4 consecutive semesters.

Overall Requirements

- 122 credit hours, to include at least 36 credits at or above the 300 course level

Degree Program Requirements

Code	Title	Credit Hours
	University Requirements (https://catalog.uncg.edu/academic-regulations-policies/undergraduate-policies)	
	General Education Core Requirements (GEC) (https://catalog.uncg.edu/academic-regulations-policies/undergraduate-policies/general-education-program/#generaleducationcorerequirementstext)	
	College of Arts and Sciences Additional Requirements (LEC) (https://catalog.uncg.edu/arts-sciences/#additionalundergraduateresultstext)	

Major Requirements

The courses in the Computer Science Department are designed to teach the foundations of computing rather than a particular technology, so that the student is prepared to adapt to changing technology. Students are exposed to various programming languages and computing systems.

The job market in computer science is strong. A student completing a bachelor's degree with a strong academic record can expect job offers as a systems programmer or analyst, applications programmer, systems support staff member, technical staff member, or similar positions. The undergraduate curriculum has also been designed to prepare students for graduate studies (master's and doctoral degrees) in computer science. Qualified students who have an interest in research will have opportunities to participate in projects with department faculty during undergraduate or graduate studies.

In addition to the regular B.S. program, students may pursue a concentration in Data Science and Big Data, which is designed to provide Computer Science B.S. students with key knowledge of appropriate theories, algorithms, and technologies, towards development of analytical systems/models for disparate, complex, and small/large scale datasets. Students completing this concentration will have learned skills necessary to tackle a wide variety of data-focused scientific, social, and environmental challenges.

Code	Title	Credit Hours
Required		36
CSC 130	Introduction to Computer Science	

CSC 230	Elementary Data Structures and Algorithms	
CSC 250	Foundations of Computer Science I	
CSC 261	Computer Organization and Assembly Language	
CSC 330	Advanced Data Structures	
CSC 339	Concepts of Programming Languages	
CSC 340	Software Engineering	
CSC 350	Foundations of Computer Science II	
CSC 471	Principles of Database Systems	
CSC 490	Senior Capstone	
CSC 553	Theory of Computation	
CSC 562	Principles of Operating Systems	
CSC Electives		12
<i>Select an additional 12 credits from any CSC course at the 300 level or above</i>		
Supporting Discipline Requirements		12
MAT 191	Calculus I [†]	
MAT 292	Calculus II	
PHI 222	Ethics in the Computer Age	
STA 271	Fundamental Concepts of Statistics	
or STA 290	Introduction to Probability and Statistical Inference	
<i>Select one of the following:</i>		
MAT 293	Calculus III	
MAT 310	Elementary Linear Algebra	
MAT 390	Ordinary Differential Equations	
STA 301	Statistical Methods	
STA 352	Statistical Inference	
Science Requirements		8
<i>Select one of the following options:</i>		
Option A:		
PHY 291	General Physics I with Calculus ^{††}	
PHY 292	General Physics II with Calculus	
Option B:		
CHE 111	General Chemistry I ^{††}	
CHE 112	General Chemistry I Laboratory ^{††}	
CHE 114	General Chemistry II	
CHE 115	General Chemistry II Laboratory	
<i>Select an additional 4 credits of science courses [*]</i>		

^{*} *Select from any course carrying credit toward a biology, chemistry, or physics major. BIO 111 Principles of Biology I is recommended.*

[†] *Counts toward GEC GMT requirement.*

^{††} *Counts toward GEC GNS requirement.*

Data Science and Big Data Concentration Requirements

Required: 15 credit hours

Students in the Data Science and Big Data Concentration must satisfy all requirements for the B.S. in Computer Science, and must complete the following courses.*

Code	Title	Credit Hours
Required		12
CSC 330	Advanced Data Structures	
CSC 471	Principles of Database Systems	

CSC 505	Data Science
CSC 510	Big Data and Machine Learning
Electives	
<i>Select 3 credits from the courses below</i>	
CSC 526	Bioinformatics
CSC 529	Artificial Intelligence
CSC 550	Combinatorics on Words
CSC 555	Algorithm Analysis and Design
STA 551	Introduction to Probability
STA 573	Theory of Linear Regression

* CSC 330 Advanced Data Structures and CSC 471 Principles of Database Systems are currently required in the B.S. program, and other CSC courses below may be used to satisfy B.S. elective requirements as well as concentration requirements.

Electives

Electives sufficient to complete the 122 credit hours required for the degree.

Accelerated B.S. to M.S.

Application and Admission

Qualified UNC Greensboro undergraduate students who are pursuing the Bachelor of Science in Computer Science may apply for admission to the Accelerated Degree Program. A cumulative undergraduate GPA of at least 3.5 based on at least 30 hours earned at UNC Greensboro is required. Applicants must have completed at least 60 semester credits and may not apply for admission to the ADP before the first semester of the junior year. Applicants will not be required to take the GRE. All applicants must submit the Request for Accelerated Degree Program to the Graduate School and must simultaneously apply for admission to the graduate degree program.

ADP Courses

Admitted students may apply the following 12 credits of graduate-level coursework toward completion of both the undergraduate and graduate degree, provided that they earn a grade of "B" (3.0) or better in the course and fulfill graduate-level requirements:

Code	Title	Credit Hours
CSC 553	Theory of Computation	3
CSC 555	Algorithm Analysis and Design	3
CSC 562	Principles of Operating Systems	3
CSC 567	Principles of Computer Networks	3

Degree Program Requirements

Please consult with an advisor to determine how the course taken at the graduate level will meet requirements in the bachelor's degree program. All degree requirements for the Master of Science in Computer Science remain the same.