

Computer Science (Certificate)

Those interested in developing their computer science knowledge and skills, but not ready to commit to a degree program, might consider the online/on-campus Computer Science Graduate Certificate. Students who complete the certificate will gain in-depth knowledge in Computer Science concepts, methods and tools.

Financial aid is not available through our program. Interested applicants will need to review other means of assistance, if needed.

More Information

Computer Science Program Website (<https://www.csc.ncsu.edu/academics/graduate/degrees/cs.php>)

Admission Requirements

Applicants are expected to have an accredited Bachelor of Science degree in Computer Science or any sciences or engineering discipline. A minimum GPA of 3.0, on a 4-point scale, is also expected. The GRE is not required for admission.

Applicant Information

- **Delivery Method:** On-Campus, Online, Hybrid
- **Entrance Exam:** None
- **Interview Required:** None

Application Deadlines

Although there is no fixed deadline to apply for the certificate, applicants are admitted for their desired term only if sufficient time remains for full clearance and enrollment when an admission decision is made.

Certificate in Computer Science

Code	Title	Hours	Counts towards
Required Courses		12	
Select a minimum of four CSC courses at the 500- or 700-level – see optional tracks listed below			
Total Hours		12	

Computer Science Foundations Track

Code	Title	Hours	Counts towards
Theory Core			
Complete two		6	
CSC 503	Computational Applied Logic		
CSC 505	Design and Analysis Of Algorithms		
CSC 512	Compiler Construction		
CSC 565	Graph Theory		

CSC 574 Computer and Network Security

CSC 579 Introduction to Computer Performance Modeling

CSC 580 Numerical Analysis I

CSC 707 Automata, Languages and Computability Theory

Systems Core

Complete two 6

CSC 501 Operating Systems Principles

CSC 506 Architecture Of Parallel Computers

CSC 510 Software Engineering

CSC 514 Foundations of Cryptography

CSC 520 Artificial Intelligence I

CSC 540 Database Management Concepts and Systems

CSC 561 Principles of Computer Graphics

CSC 570 Computer Networks

Total Hours 12

Networking Track

Code	Title	Hours	Counts towards
Core Courses			
Complete at least one		3-6	
CSC 570	Computer Networks		
CSC 573	Internet Protocols		
Elective Courses			
Complete at least two		6-9	
CSC 574	Computer and Network Security		
CSC 575	Introduction to Wireless Networking		
CSC 577	Switched Network Management		

CSC 591	Special Topics In Computer Science (Topics Include: Internet of Things Analytics; Software Defined Networking; Internet of Things: Application and Implementation; Internet of Things: A Primer; Network Design and Management; Network Science;)	
CSC 773	Advanced Topics in Internet Protocols	
CSC 774	Advanced Network Security	
Total Hours		12

Security/Privacy Track

Code	Title	Hours	Counts towards
Core Course			
Following courses is required to complete the Security/Privacy Track:			
CSC 574	Computer and Network Security	3	
Elective Courses			
Complete at least three		9	
CSC 514	Foundations of Cryptography		
CSC 515	Software Security		
CSC 705	Operating Systems Security		
CSC 533	Privacy in the Digital Age		
CSC 591	Special Topics In Computer Science		
Total Hours		12	

Systems Track

Code	Title	Hours	Counts towards
Core Courses			
Complete at least one		3-6	
CSC 501	Operating Systems Principles		
CSC 548	Parallel Systems		
Elective Courses			
Complete at least two		6-9	

CSC 506	Architecture Of Parallel Computers	
CSC 512	Compiler Construction	
CSC 547	Cloud Computing Technology	
CSC 568	Enterprise Storage Architecture	
CSC 591	Special Topics In Computer Science (Topics Include: Data-Intensive Computing; Reliable Time Computer Systems)	
CSC 714	Real Time Computer Systems	
CSC 724	Advanced Distributed Systems	
CSC 766	Code Optimization for Scalar and Parallel Programs	
Total Hours		12