

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
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
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
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 NetworkingInternet 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
Core Course		

Following courses is required to complete the Security/Privacy Track:

CSC 574	Computer and Network Security	3
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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
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