

Doctor of Philosophy in Computer Science



Updated 9/8/2023
Total Degree Credit Hours: 72

Catalog Year: 2023-2024

Foundation Courses (for students with unrelated Bachelor's/Master's degree)

Not all students are required to complete the foundation courses. Please consult with your program director.

Course Number/Title	Prerequisite	Credits	✓
CS 5000 Foundations of Programming	None	3	
CS 5020 Computer Architectures and Operating Systems	None	3	
CS 5040 Data Structures and Algorithms	CS 5000	3	
CS 5070 Mathematic Structures for Computer Science	None	3	

Program Core Requirements (18 credit hours)

Course Number/Title	Prerequisite	Credits	✓
CS 8025 Advanced Operating Systems	Admission to PhD or MSCS	3	
CS 8027 Advanced Networking and Architecture	Admission to PhD or MSCS	3	
CS 8041 Advanced Theory of Computation	Admission to PhD or MSCS	3	
CS 8045 Advanced Design and Analysis of Algorithms	Admission to PhD or MSCS	3	
CS 8050 Principles of Software Design and Programming Languages	Admission to PhD or MSCS	3	
CS 8260 Advanced Database Systems and Applications	Admission to PhD or MSCS	3	

Research Requirement (6 credit hours)

Course Number/Title	Semester	Research topic	Credits	✓
CS 8998 Advanced Research in CS			1-3	
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Research is conducted under the PhD Advisor's supervision. Up to six hours may be applied to the major area.

Internship Requirement (6 credit hours)

Students may select to take one course twice or take each course once, for a total of 6 hours earned.

Course Number/Title	Prerequisite	Internship Employer	Credits	✓
CSE 7983 Graduate Internship	9 grad CSE hours & good standing		3	
DS 9700 Doctoral Internship	Ph.D. Candidacy		1-6	

To find more information about internships for credit, visit <https://ccse.kennesaw.edu/student-resources/ccse-internships.php> or email ccseinternship@kennesaw.edu.

Notes:

Electives – Choose 6 (18 credit hours)

Course Number/Title	Prerequisite	Credits	✓
CS 8125 Advanced Cloud Computing	Admission to program	3	
CS 8172 Advanced Parallel and Distributed Computing	CS 8025 (may take concurrently)	3	
CS 8253 Advanced Graph Algorithms	CS 8045 (may take concurrently)	3	
CS 8263 Advanced Information Retrieval	CS 8045 (may take concurrently)	3	
CS 8265 Advanced Big Data Analytics	Admission to program	3	
CS 8267 Advanced Machine Learning	Admission to program	3	
CS 8347 Advanced Natural Language Processing	CS 8041 (may take concurrently)	3	
CS 8357 Advanced Neural Networks and Deep Learning	CS 8045 (may take concurrently)	3	
CS 8367 Advanced Computer Vision	CS 8045 (may take concurrently)	3	
CS 8375 Advanced Artificial Intelligence	CS 8045 (may take concurrently)	3	
CS 8540 Advanced Network Security	CS 8027 (may take concurrently)	3	
CS 8545 Advanced AI for Security and Privacy	CS 8045 (may take concurrently)	3	
CS 8990 Advanced Special Topics in Computer Science	Depends on topic	3	
CS 8992 Advanced Directed Studies	Admission to program	1-3	

Dissertation (24 credit hours)

Course Number/Title	Semester	Research topic	Credits	✓
CS 9900 Ph.D. Dissertation Research			1-9	
CS 9900 Ph.D. Dissertation Research			1-9	
CS 9900 Ph.D. Dissertation Research			1-9	

CS 9900 is a variable credit hour course and will need to be repeated until 24 credit hours is earned.