

Tentative: Course offerings are subject to change.

Course #	Course Name	Credits	2019				2020				Pre&Co-Requisites OR Notes
			Summer 19	Fall 19	Winter 20	Spring 20	Summer 20	Fall 20	Winter 21	Spring 21	
CPSC 5001	Programming Bootcamp I	3	X					X			Only open to CSF certificate students
CPSC 5002	Programming Bootcamp II	3	X					X			CPSC 5001
CPSC 5003	Programming Bootcamp III	3	X					X			CPSC 5002
CPSC 5011	Object-Oriented Concepts	3		X					X		
CPSC 5021	Database Systems	3		X					X		
CPSC 5031	Data Structures & Algorithms	3			X					X	
CPSC 5041	Computing Systems Principles I	3			X					X	
CPSC 5042	Computing Systems Principles II	3				X				X	CPSC 5041
CPSC 5051	Fundamentals of Software Engineering	5				X				X	
CPSC 5100	Agile Software Requirements	5		X					X		CPSC 5051
CPSC 5200	Software Architecture and Design	5			X	X			X	X	CPSC 5011 and CPSC 5051
CPSC 5210	Software Testing and Debugging	5				X				X	CPSC 5051
CPSC 5220	User Experience Design	5			X					X	CPSC 5051
CPSC 5230	Design Patterns & Refactoring	5									CPSC 5011 and CPSC 5051
CPSC 5240	Software as a Service	5			X	X				X	CPSC 5051
CPSC 5250	Mobile Software Development	5			X				X		CPSC 5011 and CPSC 5051
CPSC 5300	Physical Database Design & Optimization	5	X			X				X	CPSC 5021
CPSC 5305	Introduction to Data Science	2		X					X		CPSC 5031
CPSC 5310	Machine Learning	5			X				X		CPSC 5031 and MATH 5315
CPSC 5320	Visual Analytics	3			X					X	CPSC 5031
CPSC 5330	Big Data Analytics	3			X					X	CPSC 5021 and CPSC 5305
CPSC 5340	Text Processing and Search	5						X			MATH 5315, CPSC 5021, and CPSC 5031
CPSC 5350	Social Media Analytics	5						X			CPSC 5310
CPSC 5400	Compiler Principles & Techniques	5							X		CPSC 5042 and a course in programming languages
CPSC 5510	Computer Networks	5			X					X	CPSC 5042
CPSC 5520	Distributed Systems	5		X					X		CPSC 5042
CPSC 5530	Embedded Systems	5			X						CPSC 5042
CPSC 5600	Parallel Computing	5			X				X		CPSC 5031 and CPSC 5042
CPSC 5610	Artificial Intelligence	5		X					X		CPSC 5031
CPSC 5700	Computer Graphics	5		X					X		CPSC 5031
CPSC 5710	Security in Computing	5			X					X	CPSC 5031
CPSC 5800	Ethics & Professional Issues in Computing	2		X	X				X	X	
CPSC 5810	Software Engineering Project I	4		X					X		CPSC 5100, CPSC 5200, and CPSC 5210
CPSC 5820	Software Engineering Project II	4			X					X	CPSC 5810 (B- or better)
CPSC 5830	Data Science Capstone Project	5								X	CPSC 5305, CPSC 5310, CPSC 5320, and CPSC 5330
CPSC 5890	Seminar	3		X	X				X	X	25 credits of MSCS coursework
CPSC 5910	Special Topics: Cloud Computing	5			X					X	CPSC 5042
CPSC 5910	Special Topics: Computer Architecture	5		X							CPSC 5042
CPSC 5990	Graduate Research Project	4		arranged					arranged		25 credits of MSCS coursework

Courses numbered CPSC 5001-5051 are part of the Computer Science Fundamentals Certificate. Individual courses may be restricted to students in that program.

Courses numbered CPSC 5100-5990 are part of the MS-Computer Science program. Individual courses may be restricted to students in that program.