

	CS 5000	3	
Mathematical Structures for Computer Science	Undergraduate Calculus course recommended	3	

CS 6041 Theory of Computation	CS 5070 CS 5040	3	
Cs 6045 Advanced Algorithms	CS 5040 and CS 5070	3	

A) : Student must complete 24 credit hours from Major Elective list. Students can select one concentration area and complete its requirements or have the option to select courses from the CS Major Elective lists. At least 18 credit hours must be from 7000-level or higher, excluding CS 7998 and CS 7999.

B) Students must complete 6 hours thesis (CS 7999), 3 hours research (CS 7998). In addition, student must complete 15 credit hours from Major Elective list. Students can select one concentration area and complete its requirements or have the option to select courses from the Major Electives list. At least 12 credit hours must be from 7000-level or higher. Students choose this model should work with a faculty thesis advisor. Thesis needs to be defended and approved by a thesis committee that consists of at least 3 members.

Artificial Intelligence	CS 6045	3	
Machine Learning	CS 6045	3	
Machine Vision	CS 6045	3	
Natural Language Processing	CS 6041 and CS 7843	3	
Neural Networks and Deep Learning	CS 6045	3	
Special Topics in Computer Science in <i>Concentration</i>	Varies	3	

Data Warehousing and Mining	CS 6070 or BSCS degree CS 6045	3	
Information Retrieval	CS 6041 and CS 6045	3	
Big Data Analytics	CS 6045	3	
Parallel and Distributed Computing	CS 6025 or BSCS degree	3	
Graph Algorithms	CS 6041 and CS 6045	3	
Special Topics in Computer Science in <i>Concentration</i>	Varies	3	

	None-computing Degree		None-computing Degree		None-computing Degree	
req	Degree	BSCS degree	Degree	BSCS degree	Degree	BSCS degree
00		CS 5000		CS 5000		CS 5000
20		CS 5020		CS 5020		CS 5020
40		CS 5040		CS 5040		CS 5040
70		CS 5070		CS 5070		CS 5070
41	CS 6041	CS 6041	CS 6041	CS 6041	CS 6041	CS 6041
50	CS 6025	CS 6025	CS 6025	CS 6025	CS 6025	CS 6025
60	CS 7375	CS 7375	CS 7050	CS 7050	CS 7375	CS 7375
265	CS 7265	CS 7530	CS 7530	CS 7267	CS 7267	CS 7267
	CS 7367	CS 7367	CS 7172	CS 7172	CS 7335	CS 7335
	CS 7347	CS 7347	CS 7263	CS 7263	CS 7540	CS 7540
	CS 7257	CS 7257	CS 7252	CS 7252	CS 7545	CS 7545