COLLEGE OF
COMPUTER, MATHEMATICAL, & NATURAL SCIENCES
DEPARTMENT OF COMPUTER SCIENCE

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Gateway Requirements – To apply you must have already completed the following with a B- or higher:			
Course	**Title**	**Credits**	**Completed?**
CMSC 131	Object Oriented Programming I	4	
CMSC 132	Object Oriented Programming II	4	
MATH 140	Calculus I	4	

Required Coursework			
Course	**Title**	**Credits**	**Completed?**
MATH 141	Calculus II	4	
CMSC 216	Introduction to Computer Systems	4	
CMSC 250	Discrete Structures	4	
CMSC 330	Organization of Programming Languages	3	
CMSC 351	Algorithms	3	

Elective Courses (2 courses for 6 – 7 credits)			
Course	**Title**	**Credits**	**Completed?**
CMSC 411	Computer Systems Architecture	3	
CMSC 412	Operating Systems *	4	
CMSC 414	Computer and Network Security	3	
CMSC 416	Introduction to Parallel Computing	3	
CMSC 417	Computer Networks	3	
CMSC 420	Data Structures	3	
CMSC 421	Introduction to Artificial Intelligence	3	
CMSC 422	Machine Learning *	3	
CMSC 423	Bioinformatic Algorithms, Databases and Tools	3	
CMSC 424	Database Design	3	
CMSC 426	Computer Vision	3	
CMSC 427	Computer Graphics	3	
CMSC 430	Introduction to Compilers	3	
CMSC 431	Privacy Engineering	3	
CMSC 433	Programming Language Technologies and Paradigms	3	
CMSC 434	Introduction to Human-Computer Interaction	3	
CMSC 435	Software Engineering *	3	
CMSC 436	Programming Handheld Systems	3	
CMSC 451	Design and Analysis of Computer Algorithms	3	
CMSC 452	Elementary Theory of Computation	3	
CMSC 454	Algorithms for Data Science *	3	
CMSC 456	Cryptography	3	
CMSC 457	Introduction to Quantum Computing *	3	
CMSC 460 or	Computational Methods *	3	

CMSC 466	Introduction to Numerical Analysis *	3	
CMSC 470	Introduction to Natural Language Processing	3	
CMSC 471	Introduction to Data Visualization	3	
CMSC 472	Introduction to Deep Learning *	3	
CMSC 474	Introduction to Computational Game Theory	3	

* Course has additional prerequisites outside of CMSC330 and CMSC351, please check the Schedule of Classes on Testudo