

GE AREA	COURSE	TITLE	PREREQ	GRADE	TERM	FALL 2020
COMPUTER SCIENCE CORE (48 UNITS) Lower Division Core (18 units), Upper Division Core (30 units), Elective Track (15 units), Mathematics Required (18 units), Science and Mathematics Required (12 units)						
LOWER DIVISION CORE (18 UNITS) <i>CPSC 120, 121, 131, 223C or 223H or 223J or 223N or 223P, 240, 254</i>						
	CPSC 120	Introduction to Programming	Coreq: MATH 125			
	CPSC 121	Object-Oriented Programming	CPSC 120 or passing score on CPSC Place Exam			
	CPSC 131	Data Structures	CPSC 121 or CPSC Placement Exam			
	CPSC 223C	C Programming OR	CPSC 131			
	CPSC 223H	Visual BASIC Programming OR	CPSC 131			
	CPSC 223J	Java Programming OR	CPSC 131			
	CPSC 223N	Visual C# Programming OR	CPSC 131			
	CPSC 223P	Python Programming	CPSC 131			
	CPSC 240	Computer Organization and Assembly Language	CPSC 131, MATH 270A or B			
	CPSC 254	Software Development with Open Source Systems	CPSC 131			
UPPER DIVISION CORE (30 units) CPSC 311, 315, 323, 332, 335, 351, 362, 440, 471, 481						
	CPSC 311	<i>Technical Writing for Computer Science</i>	ENGL 101, CPSC 131			TuTh: 2:30 PM - 3:45 PM
	CPSC 315	Professional Ethics in Computing	CPSC 311			Sa: 9:00AM - 11:45AM
	CPSC 323	Compilers and Languages	Exam in Programming Proficiency			TuTh 4:00PM - 5:15PM
	CPSC 332	File Structures and Database Systems	CPSC 131			TuTh 5:30PM - 6:45PM
	CPSC 335	Algorithm Engineering	Exam in Programming Proficiency, MATH 270B, 338			
	CPSC 351	Operating Systems Concepts	CPSC 253U or 254			Th 7:00PM - 9:45PM
	CPSC 362	Foundations of Software Engineering	CPSC 311			
	CPSC 440	Computer System Architecture	CPSC 240			Tu 7:00PM - 9:45PM
	CPSC 471	Computer Communications	CPSC 351			
	CPSC 481	Artificial Intelligence	CPSC 335			
MATHEMATICS REQUIREMENTS (18 UNITS)						
	MATH 150A (4)	Calculus I				TuTh 9:00AM - 10:50AM
	MATH 150B (4)	Calculus II				TuTh 11:00AM - 12:50PM
	MATH 270A	Mathematical Structures I				MoWe 4:00PM - 5:15PM
	MATH 270B	Mathematical Structures II				

	MATH 338 (4)	Statistics Applied to Natural Sciences				
SCIENCE AND MATHEMATICS ELECTIVES (12 UNITS)						
At least 1 elective must be a lab (L) course						
	BIOL 101	Elements of Biology				
	BIOL 101 L (1)	Elements of Biology Laboratory				
	BIOL 172 (4)	Cellular Basis of Life				
	CHEM 120A (5)	General Chemistry				
	CHEM 125	General Chemistry B Lecture				
	GEOL 101	Physical Geology				
	GEOL 101L (1)	Physical Geology Laboratory				
	GEOL 201	Earth History				
	GEOL 201L (1)	Earth History Supplemental Lab				
	MATH 250A (4)	Calculus III				
	MATH 250B (4)	Introduction to Linear Algebra and Differential Equations				
	PHYS 225	Fundamental Physics: Mechanics				
	PHYS 225L (1)	Fundamental Physics: Laboratory				
	PHYS 226	Fundamental Physics: Electricity and Magnetism				
	PHYS 226L (1)	Fundamental Physics: Laboratory				
ELECTIVE TRACK REQUIREMENTS (15 UNITS):						
<i>Cybersecurity, Multimedia and Digital Game Technologies, Internet and Enterprise Computing Technologies, Software Engineering, Scientific Computing, Custom</i>						
Cybersecurity						
	CPSC 353	Introduction to Computer Security	CPSC 254, CPSC 351			
<i>Choose 2 out of CPSC 452, 454, or 456</i>						
	CPSC 452	Cryptography	CPSC 301, MATH 270B			
	CPSC 454	Cloud Computing and Security	CPSC 351, CPSC 353			
	CPSC 456	Network Security Fundamentals	CPSC 351			
	400 Level CPSC	<i>Plus any three units of adviser-approved, upper-division CPSC courses</i>				
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Multimedia and Digital Game Technologies						
	CPSC 386	Introduction to Game Design and Production	CPSC 131			
	CPSC 484	Principles of Computer Graphics	Exam in Programming Proficiency, MATH 150B AND 270B			
	CPSC 486	Game Programming	CPSC 386 AND 484			
	CPSC 489	Game Development Project	CPSC 486			
	400 Level CPSC	<i>Plus any three units of adviser-approved, upper-division CPSC courses</i>				
Internet and Enterprise Computing Technologies						
	CPSC 431	Database and Applications	CPSC 332			
	CPSC 473	Web Programming and Data Management	CPSC 332			

	CPSC 476	Java Enterprise Application Development	CPSC 223 AND 351			
	400 Level CPSC	<i>Plus any three units of adviser-approved, upper-division CPSC courses</i>				
	400 Level CPSC	<i>Plus any three units of adviser-approved, upper-division CPSC courses</i>				
Software Engineering						
	CPSC 462	Software Design	CPSC 362			
	CPSC 464	Software Architecture	CPSC 362			
	CPSC 463 OR	Software Testing OR	CPSC 362			
	CPSC 466	Software Process	CPSC 362			
	400 Level CPSC	<i>Plus any three units of adviser-approved, upper-division CPSC courses</i>				
	400 Level CPSC	<i>Plus any three units of adviser-approved, upper-division CPSC courses</i>				
Scientific Computing						
Completing the Mathematics courses listed below also meets the requirements for a Mathematics Minor						
	MATH 250A (4)	Calculus III				
	MATH 250B (4)	Introduction to Linear Algebra and Differential Equations				
	MATH 340	Numerical Analysis				
	MATH 370	Mathematical Model Building				
	400 Level CPSC	<i>Plus any three units of adviser-approved, upper-division CPSC courses</i>				
Custom: With the approval of an academic adviser, students may develop a track based on their career goals or specific academic interests or specific themes. A Custom track consists of upper-division Computer Science or related courses. At least nine units must be 400-level Computer Science courses with no more than three units selected from courses numbered 490-499. Additional courses in the theme may be approved by an academic adviser.						