

## GRADUATE COURSES

Undergraduate students may take any 500-level course for which they satisfy the prerequisites. Higher-numbered graduate courses may be taken only by undergraduates who satisfy the prerequisites, have a 3.0 GPA and receive permission of the instructor.

Course Number	Course Name	Prereqs	Coreqs	Course Coordinator	Typically Offered: Classroom	Typically Offered: Webcampus
CS 501	Introduction to Java Programming			Jurkat		Fall, Spring, S
CS 503	Discrete Mathematics for Cryptography	MA 502 or CS 135		Suffel	Fall	Spring, Summer
CS 506	Introduction to IT Security	MA 502		Wetzel	unlikely	
CS 510	Principles of Programming Languages	MA 502 and CS 590		Naumann	occasionally	
CS 511	Concurrent Programming	CS 392 or CS 520		Duchamp	Fall	
CS 513	Knowledge Discovery and Data Mining	MA 331 or equivalent		Dehnad	Fall, Spring	Summer
CS 514	Computer Architecture	CS 550 and (CS 590 or CS 570)		Peyrovian	Fall	occasionally
CS 519	Introduction to E-Commerce	none		Super	Fall	
CS 520	Introduction to Operating Systems	(CS 590 or CS 570) and CS 550		Faynberg	Fall	
CS 521	TCP/IP Networking	CS 520 or CS 492		Rahman	Spring	
CS 522	Mobile Systems and Applications	CS 182 or CS 385 or CS 570 or CS 590; programming experience with Java or C#		Duggan	Spring	
CS 524	Introduction to Cloud Computing	CS 492 or CS 520		Faynberg	Spring	
CS 537	Interactive Computer Graphics	CS 590 or CS 570 or CS 385 or CS 182		vacant	Fall	Spring
CS 539	Real-Time Rendering, Gaming, and Simulation Programming	CS 537		vacant	Spring	

CS 541	Artificial Intelligence	CS 590 or CS 570 or CS 385 or CS 182	Codella	Fall	
CS 544	Health Informatics		Kleinberg	Spring	
CS 545	Human-Computer Interaction	CS 590 or CS 570 or CS 385 or CS 182	Vesonder	Fall	Spring of even numbered years
CS 546	Web Programming	(CS 561 or CS 442) and (CS 146 or SOC 611)	Gabarro	Fall, Spring, Summer	Summer
CS 550	Computer Organization and Programming	Undergraduates require permission of advisor	Banduk		Fall, Spring
CS 554	Web Programming II	CS 546	Gabarro	Spring	
CS 555	Agile Methods for Software Development	O-O programming experience	Ardis (SSE)	Fall, Spring	Fall, Spring
CS 558	Computer Vision	(CS 590 or CS 570 or CS 385 or CS 182) and (MA 232 or equivalent)	vacant	Spring	
CS 559	Machine Learning: Fundamentals and Applications	MA 222 or equivalent	Mordohai	Fall	
CS 561	Database Management Systems I	CS 590 or CS 570	Kim	Fall, Summer	Fall, Spring, Summer
CS 562	Database Management Systems II	CS 561 or CS 442	Kim	Spring	Summer
CS 570	Introduction to Programming, Data Structures and Algorithms	Closed to undergraduates	Pfeffer	Fall, Spring	Fall, Spring, Summer
CS 573	Fundamentals of Cybersecurity	CS 590 or CS 570 or CS 385 or CS 182	Amoroso	Fall, Spring	
CS 574	Object-Oriented Analysis and Design	CS 590 or CS 570 or CS 385 or CS 182	Klappholz	Spring	Fall, Summer
CS 576	Secure Systems	(CS 306 or CS 506) and (CS 590 or CS 570 or CS 385 or CS 182)	CS 577 Portokalidis	Fall	
CS 577	Cybersecurity Laboratory	(CS 306 or CS 506) and (CS 590 or CS 570 or CS 385 or CS 182)	CS 576 Portokalidis	Fall	
CS 578	Privacy in a Networked World	CS 579 or CS 594 or CS 506 or CS 306	Wetzel	Spring	