Department of Computer Science Tracks

Fall 2023 and later

Course	Computational Science & Engineering*	Computer Graphics & Visualization*	Database & Information Systems*	Algorithmic Foundations*	Machine Intelligence*	Programming Languages*	Security*	Software Engineering*	Systems Software*
CS Elective (300 level or higher*)									
CS 30700 Software Engineering							*		
CS 31100 Competitive Programming II				*	*			*	*
CS 31400 Numerical Methods									
CS 33400 Fundamentals of Computer Graphics									
CS 34800 Information Systems							*		
CS 35100 Cloud Computing									
CS 35200 Compilers: Principles & Practice	*		*						
CS 35300 Principles of Concurrency & Parallelism	*		*				*		
CS 35400 Operating Systems	*		*						
CS 35500 Introduction to Cryptography			*						
CS 37300 Data Mining & Machine Learning	*		*				*		
CS 38100 Introduction to Analysis of Algorithms									
CS 39000 Advanced Topics in Algorithms	○	○	○	○	○	○	○	○	○
CS 40700 Software Engineering Senior Project									
CS 40800 Software Testing							*		
CS 41100 Competitive Programming III				*	*			*	*
CS 42200 Computer Networks			*						
CS 42600 Computer Security			*						
CS 43400 Advanced Computer Graphics									
CS 43900 Introduction to Data Visualization									
CS 44000 Large Scale Data Analytics									
CS 44800 Introduction to Relational Database Systems							*		
CS 45600 Programming Languages							*		
CS 47100 Introduction to Artificial Intelligence			*				*		
CS 47300 Web Information Search & Management	*		*				*		
CS 47500 Human-Computer Interaction									
CS/BIOL 47800 Introduction to Bioinformatics	*		*						
CS 48300 Introduction to Theory of Computation			*						
CS 48900 Embedded Systems							*		
CS 49000 DSO Distributed Systems							*		
CS 49000 Software Security									
CS 49000 Introduction to Robotics									
CS 49000 Independent Study*									
CS 49000 Senior Project*			*						*
CS 49700 Honors Research Project*			*						
CS 5100 Software Engineering									
CS 51400 Numerical Analysis									
CS 51500 Numerical Linear Algebra									
CS 52000 Optimization									
CS 52500 Parallelism									

Course										
CS 56000 Reasoning about Programs								E		
CS 57700 Natural Language Processing						E				
CS 57800 Statistical Machine Learning						E				
CS 59000 SRS Software Reliability and Security									E	
ECE 30100 Signals & Systems	E *									
EPCS 41100 + 41200 EPCS Senior Design Participation			C *							
IE 33500 Operations Research - Optimization	E									
IE 33600 Operations Research – Stochastic Models	E *									
MA 26600 Ordinary Differential Equations	1									
MA 34100 Analysis I	E			C						
MA 35301 Linear Algebra II				C						
MA 36200 Topics in Vector Calculus				C						
MA 36600 Ordinary Differential Equations	1			C						
MA 38500 Introduction to Logic	E			C		E				
MA 42100 Linear Programming & Optimization Techniques				C						
MA 44000 Analysis II	E									
MA 45300 Elements of Algebra I				C		E				
STAT/MA 41600 Probability					1					
STAT 51200 Applied Regression Analysis					1					

Required (black)

Elective (gray)

Required / Elective (split)

One is Required (black triangle)

Choose only one as Elective (gray triangle)
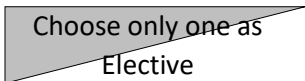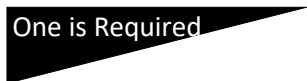
*Refer to https://www.cs. purdue.edu/undergraduate/curriculum/bachelor.html for more information

◯ CS 39000 Advanced Topics in Algorithms can be used in place of CS 38100 Introduction to Analysis of Algorithms