Computer Engineering Program

(Requirements based on Calendar of 2024-25)

The Computer Engineering Program consists of total of 120 credits including the Engineering Core (30.50 Credits) the Computer Engineering Core (69.50 Credits), and Elective Courses chosen from Electrical Engineering Electives (minmum of 17.00 credits). Moreover, students should be a member of C-Edge Program or Coop program and should complete one or three workterms, respectively.

30.50	Course	Engineering Core	Prerequisite and Co-requisite	Comments
3.50	ELEC 273	Basic Circuit Analysis	PHYS 205; Co-req ENGR 213;	
3.00	ENCS 282	Technical Writing and Communication	Engineering Writing Test (EWT) or ENCS 272 (Grade of C- or better)	
1.50	ENGR 201	Professional Practice and Responsibility		
1.50	ENGR 202	Sustainable Development and Environmental Stewardship		
3.00	ENGR 213	Applied Ordinary Differential Equations	MATH 205; Co-req MATH 204;	
3.00	ENGR 233	Applied Advanced Calculus	MATH 204, 205	
3.00	ENGR 301	Engineering Management Principles and Economics		
3.00	ENGR 371	Probability and Statistics in Engineering	ENGR 213, 233	
3.00	ENGR 391	Numerical Methods in Engineering	ENGR 213, 233; COEN 243	
3.00	ENGR 392	Impact of Technology on Society	ENCS 282; ENGR 201, 202	
3.00	GEN_ED	General Education Elective	from section 71.110 of the Undergraduate Calendar	
69.50	**Course**	**Electrical Core**	**Prerequisite and Co-requisite**	**Comments**
3.50	COEN 212	Digital Systems Design I	MATH 204	
3.00	COEN 231	Introduction to Discrete Mathematics	MATH 204	
3.50	COEN 243	Programming Methodology I	MATH 204	
3.00	COEN 244	Programming Methodology II	COEN 243	
3.50	COEN 311	Computer Organization and Software	COEN 212, 243	
3.50	COEN 313	Digital Systems Design II	COEN 212, 231	
3.50	COEN 314	Digital Electronics I	ELEC 273, COEN 212	
3.50	COEN 316	Computer Architecture and Design	COEN 311 , 313	
3.50	COEN 317	Microprocessor-Based Systems	COEN 311 , 313	
3.00	COEN 320	Introduction to Real-Time Systems	COEN 346	
3.50	COEN 346	Operating Systems	COEN 311; COEN 352	
3.00	COEN 352	Data Structures and Algorithms	COEN 231, 244	
3.50	COEN 366	Communication Networks and Protocols	COEN 346	
3.00	ELEC 242	Continuous-Time Signals and Systems	ELEC 273; ENGR 213	
3.50	ELEC 342	Discrete-Time Signals and Systems	ELEC 242	
3.50	ELEC 372	Fundamentals of Control Systems	ELEC 242	
4.00	SOEN 341	Software Process and Practices	COMP 352 or COEN 352; Co-req ENCS 282;	
3.00	ENGR 290	Introductory Engineering Team Design Project	ENGR 213, 233; ENCS 282; COEN 243	
3.00	COEN 390	Computer Engineering Product Design Project	Minimum of 45 credits in BEng (Computer); COEN 311, 352; ENGR 290	
6.00	COEN 490 or ENGR 490	Capstone Computer Engineering Design Project	ENGR 301, 371; COEN 390; SOEN 341; Minimum of 75 credits in Beng in Computer Engineering; C.Edge work term or one co-op work term. If pre-requisites are not satisfied, permission of the Department is required.	
20.00	**Course**	**Computer Engineering Electives**	**Consult section 71.30.2 of the Undergraduate Calendar**	**Comments**