Computer Engineering – General Stream
September Entry

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
Year 1	Fall	COEN 212	Digital Systems Design I	3.50	MATH 204	
		COEN 243	Programming Methodology I	3.00	MATH 204	
		ELEC 273	Basic Circuit Analysis	3.50	PHYS 205	ENGR 213
		ENGR 201	Professional Practice and Responsibility	1.50		
		ENGR 213	Applied Ordinary Differential Equations	3.00	MATH 205	MATH 204
	Winter	COEN 231	Introduction to Discrete Mathematics	3.00	MATH 204	
		COEN 244	Programming Methodology II	3.00	COEN 243	
		COEN 311	Computer Organization and Software	3.50	COEN 212, 243	
		ELEC 242	Continuous-Time Signals and Systems	3.00	ELEC 273; ENGR 213	
		ENGR 202	Sustainable Development and Environmental Stewardship	1.50		
Year 2	Fall	COEN 352	Data Structures and Algorithms	3.00	COEN 231, 244	
		ELEC 311	Electronics I	3.50	ELEC 273	
		ELEC 342	Discrete-Time Signals and Systems	3.50	ELEC 242 or 264	
		ENCS 282	Technical Writing and Communication	3.00	Students must pass the Engineering Writing Test (EWT), or pass ENCS 272 with a grade of C- or higher	
		ENGR 233	Applied Advanced Calculus	3.00	MATH 204, 205	
	Winter	COEN 313	Digital Systems Design II	3.50	COEN 212, 231	
		COEN 346	Operating Systems	3.50	COEN 311 ; COMP 352 or COEN 352	
		ELEC 353	Transmission Lines, Waves and Signal Integrity	3.00	ELEC 242 or 264; ENGR 233	
		ENGR 290	Introductory Engineering Team Design Project	3.00	ENCS 282; ENGR 213, 233	
		SOEN 341	Software Process	3.00	COMP 352 or COEN 352	ENCS 282
Year 3	Fall	COEN 316	Computer Architecture and Design	3.50	COEN 311 , 313	
		COEN 317	Microprocessor Systems	3.50	COEN 311 or COMP 228 or SOEN 228; COEN 313	
		COEN 320	Introduction to Real-Time Systems	3.00	COEN 346 or COMP 346	
		ENGR 301	Engineering Management Principles and Economics	3.00		
		ENGR 391	Numerical Methods in Engineering	3.00	ENGR 213, 233; COMP 248 or COEN 243 or MECH 215 or BCEE 231	
	Winter	COEN 390	Computer Engineering Product Design Project	3.00	Minimum of 45 credits in BEng (Computer); COEN 244, 311 ; ENGR 290, 301	
		ELEC 321	Introduction to Semiconductor Materials and Devices	3.50	CHEM 205; ENGR 213	
		ELEC 372	Fundamentals of Control Systems	3.50	ELEC 242 or 364	
		ENGR 371	Probability and Statistics in Engineering	3.00	ENGR 213, 233	
Year 4	Fall	COEN 445	Communication Networks and Protocols	3.50	COEN 346	
		COEN 490	Capstone Computer Engineering Design Project	4.00	Minimum of 75 credits in BEng (Computer) or permission of the Department; ENGR 371; COEN 352, 390; ELEC 311 or SOEN 341	
		ENGR 392	Impact of Technology on Society	3.00	ENCS 282; ENGR 201, 202	
			Elective*			
	Winter	COEN 490	Capstone Computer Engineering Design Project		Minimum of 75 credits in BEng (Computer) or permission of the Department; ENGR 371; COEN 352, 390; ELEC 311 or SOEN 341	
			General Education elective	3.00		
			Elective*			

**** At least 3.0 of these 17.00 credits must be taken from the General Stream Option Electives list. The rest may be chosen from the Computer Engineering Electives list. For more information, please consult section 71.30.2 of the 2017-2018 Undergraduate Calendar.***

Computer Engineering – General Stream
January Entry

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
Year 1	Winter	COEN 212	Digital Systems Design I	3.50	MATH 204	
		COEN 231	Introduction to Discrete Mathematics	3.00	MATH 204	
		COEN 243	Programming Methodology I	3.00	MATH 204	
		ELEC 273	Basic Circuit Analysis	3.50	PHYS 205	ENGR 213
		ENGR 213	Applied Ordinary Differential Equations	3.00	MATH 205	MATH 204
	Summer	COEN 244	Programming Methodology II	3.00	COEN 243	
		ELEC 242	Continuous-Time Signals and Systems	3.00	ELEC 273; ENGR 213	
		ENCS 282	Technical Writing and Communication	3.00	Students must pass the Engineering Writing Test (EWT), or pass ENCS 272 with a grade of C- or higher	
		ENGR 201	Professional Practice and Responsibility	1.50		
		ENGR 233	Applied Advanced Calculus	3.00	MATH 204, 205	
Year 2	Fall	COEN 311	Computer Organization and Software	3.50	COEN 212, 243	
		COEN 352	Data Structures and Algorithms	3.00	COEN 231, 244	
		ELEC 311	Electronics I	3.50	ELEC 273	
		ELEC 342	Discrete-Time Signals and Systems	3.50	ELEC 242 or 264	
		ENGR 202	Sustainable Development and Environmental Stewardship	1.50		
	Winter	COEN 313	Digital Systems Design II	3.50	COEN 212, 231	
		COEN 346	Operating Systems	3.50	COEN 311 ; COMP 352 or COEN 352	
		ELEC 353	Transmission Lines, Waves and Signal Integrity	3.00	ELEC 242 or 264; ENGR 233	
		ENGR 290	Introductory Engineering Team Design Project	3.00	ENCS 282; ENGR 213, 233	
		SOEN 341	Software Process	3.00	COMP 352 or COEN 352	ENCS 282
Year 3	Fall	COEN 316	Computer Architecture and Design	3.50	COEN 311 , 313	
		COEN 317	Microprocessor Systems	3.50	COEN 311 or COMP 228 or SOEN 228; COEN 313	
		COEN 320	Introduction to Real-Time Systems	3.00	COEN 346 or COMP 346	
		ENGR 301	Engineering Management Principles and Economics	3.00		
		ENGR 391	Numerical Methods in Engineering	3.00	ENGR 213, 233; COMP 248 or COEN 243 or MECH 215 or BCEE 231	
	Winter	COEN 390	Computer Engineering Product Design Project	3.00	Minimum of 45 credits in BEng (Computer); COEN 244, 311 ; ENGR 290, 301	
		ELEC 321	Introduction to Semiconductor Materials and Devices	3.50	CHEM 205; ENGR 213	
		ELEC 372	Fundamentals of Control Systems	3.50	ELEC 242 or 364	
		ENGR 371	Probability and Statistics in Engineering	3.00	ENGR 213, 233	
Year 4	Fall	COEN 445	Communication Networks and Protocols	3.50	COEN 346	
		COEN 490	Capstone Computer Engineering Design Project	4.00	Minimum of 75 credits in BEng (Computer) or permission of the Department; ENGR 371; COEN 352, 390; ELEC 311 or SOEN 341	
		ENGR 392	Impact of Technology on Society	3.00	ENCS 282; ENGR 201, 202	
			Elective*			
	Winter	COEN 490	Capstone Computer Engineering Design Project		Minimum of 75 credits in BEng (Computer) or permission of the Department; ENGR 371; COEN 352, 390; ELEC 311 or SOEN 341	
			General Education elective	3.00		
			Elective*			

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Computer Engineering - General Stream
Co-op Entry

Year	Term	Course	Title	Credit	Prerequisite	Co-requisite
Year 1	Fall	COEN 212	Digital Systems Design I	3.50	MATH 204	
		COEN 243	Programming Methodology I	3.00	MATH 204	
		ELEC 273	Basic Circuit Analysis	3.50	PHYS 205	ENGR 213
		ENGR 201	Professional Practice and Responsibility	1.50		
		ENGR 213	Applied Ordinary Differential Equations	3.00	MATH 205	MATH 204
	Winter	COEN 231	Introduction to Discrete Mathematics	3.00	MATH 204	
		COEN 244	Programming Methodology II	3.00	COEN 243	
		COEN 311	Computer Organization and Software	3.50	COEN 212, 243	
		ELEC 242	Continuous-Time Signals and Systems	3.00	ELEC 273; ENGR 213	
		ELEC 311	Electronics I	3.50	ELEC 273	
	Summer	COEN 352	Data Structures and Algorithms	3.00	COEN 231, 244	
		ELEC 342	Discrete-Time Signals and Systems	3.50	ELEC 242 or 264	
		ENCS 282	Technical Writing and Communication	3.00	Students must pass the Engineering Writing Test (EWT), or pass ENCS 272 with a grade of C- or higher	
		ENGR 202	Sustainable Development and Environmental Stewardship	1.50		
		ENGR 233	Applied Advanced Calculus	3.00	MATH 204, 205	
Year 2	Fall	Work Term 1				
	Winter	COEN 313	Digital Systems Design II	3.50	COEN 212, 231	
		COEN 346	Operating Systems	3.50	COEN 311 ; COMP 352 or COEN 352	
		ELEC 353	Transmission Lines, Waves and Signal Integrity	3.00	ELEC 242 or 264; ENGR 233	
		ENGR 290	Introductory Engineering Team Design Project	3.00	ENCS 282; ENGR 213, 233	
		SOEN 341	Software Process	3.00	COMP 352 or COEN 352	ENCS 282
	Summer	ENGR 301	Engineering Management Principles and Economics	3.00		
		ENGR 371	Probability and Statistics in Engineering	3.00	ENGR 213, 233	
		ENGR 391	Numerical Methods in Engineering	3.00	ENGR 213, 233; COMP 248 or COEN 243 or MECH 215 or BCEE 231	
		ENGR 392	Impact of Technology on Society	3.00	ENCS 282; ENGR 201, 202	
Year 3	Fall	COEN 316	Computer Architecture and Design	3.50	COEN 311 , 313	
		COEN 317	Microprocessor Systems	3.50	COEN 311 or COMP 228 or SOEN 228; COEN 313	
		COEN 320	Introduction to Real-Time Systems	3.00	COEN 346 or COMP 346	
		COEN 390	Computer Engineering Product Design Project	3.00	Minimum of 45 credits in BEng (Computer); COEN 244, 311 ; ENGR 290, 301	
		ELEC 372	Fundamentals of Control Systems	3.50	ELEC 242 or 364	
	Winter	Work Term 2				
	Summer	Work Term 3				
Year 4	Fall	COEN 445	Communication Networks and Protocols	3.50	COEN 346	
		COEN 490	Capstone Computer Engineering Design Project	4.00	Minimum of 75 credits in BEng (Computer) or permission of the Department; ENGR 371; COEN 352, 390; ELEC 311 or SOEN 341	
			General Education elective	3.00		
			Elective*			
	Winter	COEN 490	Capstone Computer Engineering Design Project		Minimum of 75 credits in BEng (Computer) or permission of the Department; ENGR 371; COEN 352, 390; ELEC 311 or SOEN 341	
		ELEC 321	Introduction to Semiconductor Materials and Devices	3.50	CHEM 205; ENGR 213	

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