

Computer Engineering – Biological and Biomedical Engineering (Old course sequences)

Computer Engineering program old course sequences for year 2, year 3 and year 4 students

- 1. Students in the 2nd year, 3rd year and 4th year of 120-credit Computer Engineering program should follow the old sequences presented in the next pages.
- 2. The 1st year courses indicated in the following course sequences were offered in academic year 2018-19 and will not be offered anymore.
- 3. The 2nd year courses indicated in the following course sequences will be offered only in academic year 2019-20 for the last time.
- 4. The 3rd year courses indicated in the following course sequences will be offered only in academic years 2019-20 and 2020-21.
- 5. The 4th year courses indicated in the following course sequences will be offered only in academic years 2019-20, 2020-2021 and 2021-22.





Computer Engineering – Biological and Biomedical Engineering September Entry (Admitted in Fall 2018 or earlier)

ATH 204 ATH 204 HYS 205 ENGR 213
ENGR 213
ATH 205 MATH 204
ATH 204
DEN 243
DEN 212, 243
EC 273; ENGR 213
DEN 231, 244
EC 273
EC 242 or 264
udents must pass the Engineering Writing Test (EWT), or
ss ENCS 272 with a grade of C- or higher
ATH 204, 205
DEN 212, 231
DEN 311; COMP 352 or COEN 352
EC 242 or 264; ENGR 233
ICS 282; ENGR 213, 233
DMP 352 or COEN 352 ENCS 282
OFN 244 - 242
DEN 311, 313
DEN 311 or COMP 228 or SOEN 228; COEN 313
ICD 212, 222, COMD 249 or COEN 242 or MECH 215 or
IGR 213, 233; COMP 248 or COEN 243 or MECH 215 or EEE 231
IEM 205; ENGR 213
inimum of 45 credits in BEng (Computer); COEN 244, 1 ; ENGR 290, 301
EC 242 or 364
IGR 213, 233
DEN 212, 244
Ainimum of 75 credits in BEng (Computer) or permission of the Department; ENGR 371; COEN 352, 390; ELEC 311 or SOEN 341
ICS 282; ENGR 201, 202
EC 342 or 364
inimum of 75 credits in BEng (Computer) or permission the Department; ENGR 371; COEN 352, 390; ELEC 311 SOEN 341
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^{*} At least 9.0 of these 17.5 credits must be taken from the Biological and Biomedical Engineering Option Electives list. Not more than two science courses (BIOL or PHYS) may be taken. The remaining 8.5 credits 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 - Biological and Biomedical Engineering January Entry (Admitted in Winter 2019 or earlier)

Year3	Term	Course	Title	Credit	Prerequisite	Co-requisite
Year 1	Winter	COEN 212	Digital Systems Design I	3.50	MATH 204	
		COFN 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	
		2220212	Continuous Time Signals and Asterns	3.00	Students must pass the Engineering Writing Test (EWT), or	
		ENCS 282	Technical Writing and Communication	3.00	pass ENCS 272 with a grade of C- or higher	
		F# 70 204	Des Construct Des attended Description (1979)	4.50	pass LINCS 272 with a grade of C- of therei	
		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
		JOLIV 541	Software Frocess	3.00	COIVII 332 OI COLIN 332	LIVES 202
Year 3	Fall	COEN 316	Computer Architecture and Design	3.50	COEN 311, 313	
rear 5	Ган		· · · · · · · · · · · · · · · · · · ·			
		COEN 317	Microprocessor Systems	3.50	COEN 311 or COMP 228 or SOEN 228; COEN 313	
		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	
			G G		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	ELEC 444	Medical Image Processing	3.00	ELEC 342 or 364	
					Minimum of 75 credits in BEng (Computer) or permission	
		COEN 490	Capstone Computer Engineering Design Project	4.00	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*			
			Licetive			
	Winter	COEN 433	Biological Computing and Synthetic Biology	3.00	COEN 212, 244	
	FFITTEET	33EN 133		3.00	Minimum of 75 credits in BEng (Computer) or permission	
		COEN 490	Capstone Computer Engineering Design Project		of the Department; ENGR 371; COEN 352, 390; ELEC 311	
		COLIN 450	Capatonic Compater Engineering Design Floject		or SOEN 341	
			General Education elective	3.00		
				2.00		
			Elective*			

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Computer Engineering - Biological and Biomedical Engineering Co-op Entry (Admitted in Fall 2018 or earlier)

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	
		ELFC 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
		00511024		2.00	NATURE AND ADDRESS OF THE PROPERTY OF THE PROP	
	Winter	COEN 231	Introduction to Discrete M9athematics	3.00	MATH 204	
		COEN 244 COEN 311	Programming Methodology II	3.00 3.50	COEN 243 COEN 212, 243	
		ELEC 242	Continuous Time Signals and Systems	3.50	ELEC 273; ENGR 213	
		ELEC 242 ELEC 311	Continuous-Time Signals and Systems Electronics I	3.50	ELEC 273; ENGR 213	
		LLLC 311	Liectionics	3.30		
	Summer	COEN 352	Data Structures and Algorithms	3.00	COEN 231, 244	
	Summer	ELEC 342	Discrete-Time Signals and Systems	3.50	ELEC 242 or 264	
				3.00	Students must pass the Engineering Writing Test (EWT), or pass ENCS 272	
		ENCS 282	Technical Writing and Communication	3.00	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	
V 2	E. II	March To 4				
Year 2	Fall	Work Term 1				
	Winter	COEN 313	Digital Systems Design II	3.50	COEN 212, 231	
	vviiitei	COEN 313	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
		332.1312		0.00		
	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	
	E. II	COENTAG	Complete And Start and Application	2.50	COEN 244 242	
Year 3	Fall	COEN 316	Computer Architecture and Design	3.50	COEN 311 , 313	
		COEN 317 COEN 390	Microprocessor Systems Computer Engineering Product Design Project	3.50	COEN 311 or COMP 228 or SOEN 228; COEN 313 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	
		ELEC 3/2	rundamentals of Control Systems	3.50	ELEC 242 01 304	
	Winter	Work Term 2				
	C					
	Summer	Work Term 3				
Year 4	Fall	ELEC 444	Medical Image Processing	3.00	ELEC 342 or 364	
	Tull			2.00	Minimum of 75 credits in BEng (Computer) or permission of the	
		COEN 490	Capstone Computer Engineering Design Project	4.00	Department; ENGR 371; COEN 352, 390; ELEC 311 or SOEN 341	
			General Education elective	3.00		
			Elective*			
	Winter	COEN 433	Biological Computing and Synthetic Biology	3.00	COEN 212, 244	
		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	
			Elective*			
		ELEC 321	Introduction to Semiconductor Materials and Devices	3.50	CHEM 205; ENGR 213	

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