Electrical Engineering Program

(Requirements based on Calendar of 2024-25)

The Electrical Engineering Program consists of total of 120 credits including the Engineering Core (30.50 Credits) the Electrical Engineering Core (72.50 Credits), and Elective Courses chosen from Electrical Engineering Electives (minmum of 17.00 credits). Moreover, students should be member of C-Edge Program or Coop programand should complete one or three workterms, respectively.

ELEC 273 ENCS 282 ENGR 201 ENGR 202 ENGR 213 ENGR 233 ENGR 301 ENGR 371 ENGR 391 ENGR 392	Basic Circuit Analysis Technical Writing and Communication Professional Practice and Responsibility Sustainable Development and Environmental Stewardship Applied Ordinary Differential Equations Applied Advanced Calculus Engineering Management Principles and Economics Probability and Statistics in Engineering	PHYS 205; Co-req ENGR 213; Engineering Writing Test (EWT) or ENCS 272 (Grade of C- or better) MATH 205; Co-req MATH 204; MATH 204, 205	
ENGR 201 ENGR 202 ENGR 213 ENGR 233 ENGR 301 ENGR 371 ENGR 391 ENGR 392	Professional Practice and Responsibility Sustainable Development and Environmental Stewardship Applied Ordinary Differential Equations Applied Advanced Calculus Engineering Management Principles and Economics	MATH 205; Co-req MATH 204;	
ENGR 202 ENGR 213 ENGR 233 ENGR 301 ENGR 371 ENGR 391 ENGR 392	Sustainable Development and Environmental Stewardship Applied Ordinary Differential Equations Applied Advanced Calculus Engineering Management Principles and Economics		
ENGR 213 ENGR 233 ENGR 301 ENGR 371 ENGR 391 ENGR 392	Applied Ordinary Differential Equations Applied Advanced Calculus Engineering Management Principles and Economics		
ENGR 233 ENGR 301 ENGR 371 ENGR 391 ENGR 392	Applied Advanced Calculus Engineering Management Principles and Economics		
ENGR 301 ENGR 371 ENGR 391 ENGR 392	Engineering Management Principles and Economics	MATH 204, 205	
ENGR 371 ENGR 391 ENGR 392			
ENGR 391 ENGR 392	Probability and Statistics in Engineering		
ENGR 392		ENGR 213, 233	
	Numerical Methods in Engineering	ENGR 213, 233; COEN 243	
	Impact of Technology on Society	ENCS 282; ENGR 201, 202	
GEN ED	General Education Elective	from section 71.110 of the Undergraduate Calendar	
Course	Electrical Core	Prerequisite and Co-requisite	Comments
COEN 212	Digital Systems Design I	MATH 204	
COEN 231	Introduction to Discrete Mathematics	MATH 204	
COEN 243	Programming Methodology I	MATH 204	
COEN 244	Programming Methodology II	COEN 243	
COEN 311	Computer Organization and Software	COEN 212, 243	
COEN 313	Digital Systems Design II	COEN 212, 231	
COEN 352	Data Structures and Algorithms	COEN 231, 244	
ELEC 242	Continuous-Time Signals and Systems	ELEC 273, ENGR 213	
ELEC 251	Fundamentals of Applied Electromagnetics	ELEC 273, Co-req ENGR 233;	
ELEC 311	Electronics I	ELEC 273	
ELEC 312	Electronics II	ELEC 311; ELEC 242	
ELEC 321	Introduction to Semiconductor Materials and Devices	CHEM 205; ENGR 213	
ELEC 331	Fundamentals of Electrical Power Engineering	ELEC 251, 273	
ELEC 342		ELEC 242	
ELEC 351		ELEC 251, 242, ENGR 233	
ELEC 366	Telecommunciation Networks	COEN 352, ELEC 342; ENGR 371	
ELEC 367	Introduction to Digital Communications	ELEC 342; ENGR 371	
ELEC 372	Fundamentals of Control Systems	ELEC 242	
ENGR 290	Introductory Engineering Team Design Project	ENCS 282; ENGR 213, 233; COEN 243	
ELEC 390	Electrical Engineering Product Design Project	Minimum of 45 credits in BEng (Electrical); COEN 352; ELEC 311; ENGR 290	
ELEC 490	Capstone Electrical Engineering Design Project	ENGR 301, 371; COEN 311; ELEC 342; ELEC 390; Minimum of 75 credits in BEng	
6.00 or		in Electrical Engineering; C.Edge work term or one co-op work term. If pre-	
ENGR490			
Course	Electrical Engineering Electives	Consult section 71.30.1 of the Undergraduate Calendar	Comments
	GEN_ED Course COEN 212 COEN 231 COEN 243 COEN 244 COEN 311 COEN 352 ELEC 242 ELEC 251 ELEC 311 ELEC 312 ELEC 321 ELEC 321 ELEC 342 ELEC 351 ELEC 366 ELEC 367 ELEC 372 ENGR 290 ELEC 490 or ENGR490	GEN_ED General Education Electrive Course Electrical Core COEN 212 Digital Systems Design I COEN 231 Introduction to Discrete Mathematics COEN 243 Programming Methodology I COEN 244 Programming Methodology II COEN 311 Computer Organization and Software COEN 313 Digital Systems Design II COEN 352 Data Structures and Algorithms ELEC 242 Continuous-Time Signals and Systems ELEC 251 Fundamentals of Applied Electromagnetics ELEC 311 Electronics I ELEC 312 Electronics II ELEC 321 Introduction to Semiconductor Materials and Devices ELEC 331 Fundamentals of Electrical Power Engineering ELEC 342 Discrete-Time Signals and Systems ELEC 351 Electromagnetic Waves and Guiding Structures ELEC 366 Telecommunciation Networks ELEC 372 Fundamentals of Control Systems ELEC 373 Fundamentals of Control Systems ELEC 374 Electromagnetic Waves and Guiding Structures ELEC 375 Electromagnetic Waves and Guiding Structures ELEC 367 Introduction to Digital Communications ELEC 370 Fundamentals of Control Systems ENGR 290 Introductory Engineering Team Design Project ELEC 390 Electrical Engineering Product Design Project ELEC 490 Capstone Electrical Engineering Design Project	GEN_ED General Education Electrical Core Electrical Core Prerequisite and Co-requisite COEN 212 Digital Systems Design I MATH 204 COEN 231 Introduction to Discrete Mathematics MATH 204 COEN 243 Programming Methodology I COEN 244 COEN 244 Programming Methodology II COEN 243 COEN 345 Digital Systems Design II COEN 243 COEN 310 Computer Organization and Software COEN 212, 243 COEN 313 Digital Systems Design II COEN 212, 231 COEN 313 Digital Systems Design II COEN 212, 231 COEN 320 Data Structures and Algorithms COEN 213, 244 ELEC 242 Continuous-Time Signals and Systems ELEC 273, EO-req ENGR 233; ELEC 311 Electronics I ELEC 273 ELEC 312 Electronics I ELEC 273 ELEC 312 Electronics I ELEC 312; ELEC 312 ELEC 313 Fundamentals of Electrical Power Engineering ELEC 251, 273 ELEC 331 Fundamentals of Electrical Power Engineering ELEC 251, 273 ELEC 342 Discrete-Time Signals and Systems ELEC 251, 273 ELEC 342 Discrete-Time Signals and Guiding Structures ELEC 251, 273 ELEC 345 Electromagnetic Waves and Guiding Structures ELEC 251, 274 ELEC 367 Introduction to Digital Communications ELEC 251, ELEC 342; ENGR 371 ELEC 367 Introduction to Digital Communications ELEC 242 ENGR 290 Electrical Engineering Product Design Project ENCS 282; ENGR 213, 233; COEN 243 ELEC 390 Electrical Engineering Product Design Project ENCS 282; ENGR 213, 233; COEN 243 ELEC 390 Electrical Engineering Product Design Project ENCS 282; ENGR 311; ELEC 342; ENGR 390, Minimum of 45 credits in BEng (Electrical); COEN 352; ELEC 311; ENGR 290 ENGR 390 ENGR 390, Minimum of 45 credits in BEng (Electrical); COEN 352; ELEC 390, Minimum of 75 credits in BEng in Electrical Engineering Cedus in Engraphic ENGR 390, Minimum of 75 credits in BEng in Electrical Engineering Cedus or in Electrical Engineering Ced