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.

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	
72.50	**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	
3.00	COEN 352	Data Structures and Algorithms	COEN 231, 244	
3.00	ELEC 242	Continuous-Time Signals and Systems	ELEC 273, ENGR 213	
3.00	ELEC 251	Fundamentals of Applied Electromagnetics	ELEC 273, Co-req ENGR 233;	
3.50	ELEC 311	Electronics I	ELEC 273	
3.50	ELEC 312	Electronics II	ELEC 311; ELEC 242	
3.50	ELEC 321	Introduction to Semiconductor Materials and Devices	CHEM 205; ENGR 213	
3.50	ELEC 331	Fundamentals of Electrical Power Engineering	ELEC 251, 273	
3.50	ELEC 342	Discrete-Time Signals and Systems	ELEC 242	
3.50	ELEC 351	Electromagnetic Waves and Guiding Structures	ELEC 251, 242, ENGR 233	
3.50	ELEC 366	Telecommunciation Networks	COEN 352, ELEC 342; ENGR 371	
3.50	ELEC 367	Introduction to Digital Communications	ELEC 342; ENGR 371	
3.50	ELEC 372	Fundamentals of Control Systems	ELEC 242	
3.00	ENGR 290	Introductory Engineering Team Design Project	ENCS 282; ENGR 213, 233; COEN 243	
3.00	ELEC 390	Electrical Engineering Product Design Project	Minimum of 45 credits in BEng (Electrical); COEN 352; ELEC 311; ENGR 290	
6.00	ELEC 490 or ENGR490	Capstone Electrical Engineering Design Project	ENGR 301, 371; COEN 311; ELEC 342; ELEC 390; Minimum of 75 credits in BEng in Electrical Engineering; C.Edge work term or one co-op work term. If pre-requisites are not satisfied, permission of the Department is required.	
17.00	**Course**	**Electrical Engineering Electives**	**Consult section 71.30.1 of the Undergraduate Calendar**	**Comments**