Minor

Electrical Engineering Minor

Lee Belfore, Ph.D., Chief Departmental Advisor

An undergraduate minor in electrical engineering may be obtained by successful completion of 12 or more semester credit hours of approved electrical or computer engineering or computer science course work at the 200, 300 or 400 level. In addition, a student seeking a minor in electrical engineering must satisfy all pre- or corequisite requirements for the courses selected. Tracks in systems science, physical electronics, digital design, and electrical power are available. The chief departmental advisor must approve the precise course of study. The basic course requirements for the three main tracks are as follows:

Requirements

Systems Science Track

ECE 202	Circuit Analysis II	3
ECE 302	Linear System Analysis	3
ECE 304	Probability, Statistics, and Reliability	3
Select one of the following:		3
ECE 451	Communication Systems	
ECE 452	Introduction to Wireless Communication Networks	
ECE 455	Network Engineering and Design	
ECE 461	Automatic Control Systems	
Total Credit Hours		**12**

Physical Electronics Track

ECE 323	Electromagnetics	3
ECE 332	Microelectronic Materials and Processes	3
Select two of the following:		6
ECE 454	Introduction to Bioelectrics	
ECE 464	Biomedical Applications of Low Temperature Plasmas	
ECE 471	Introduction to Solar Cells	
ECE 472	Plasma Processing at the Nanoscale	
ECE 473	Solid State Electronics	
ECE 474	Optical Fiber Communication	
Total Credit Hours		**12**

Digital Design Track*

ECE 241	Fundamentals of Computer Engineering	4
ECE 341	Digital System Design	3
ECE 346	Microcontrollers	3
Select one of the following:		3
ECE 441	Advanced Digital Design and Field Programmable Gate Arrays	
ECE 443	Computer Architecture	
ECE 483	Embedded Systems	
Total Credit Hours		**13**

* The digital design track is not available for computer engineering majors and modeling and simulation engineering majors.

Electrical Power Track

ECE 303	Introduction to Electrical Power	3
ECE 323	Electromagnetics	3
Select two of the following:		6
ECE 403	Power Electronics	
ECE 404	Electric Drives	
ECE 405	Power System Design & Analysis	
ECE 408	Fundamentals of Electric Vehicles	
ECE 461	Automatic Control Systems	
ECE 471	Introduction to Solar Cells	
Total Credit Hours		**12**

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses specified as a requirement for the minor exclusive of lower-level courses, prerequisites and corequisites and complete at least six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University. Completion of a minor in electrical engineering with a GPA of 3.00 or greater partially satisfies the leveling requirements for graduate degrees in electrical engineering.