ELECTRICAL ENGINEERING - Catalog Year 2023

Total Credits = 122 -125

Freshman Year *Fall* Semester

Course Code	Description	Cr	
CHM 101	General Chemistry Lec I (A1)	3	
CHM 102	General Chemistry I Lab	1	
ECN 201	Principles of Microeconomics (A2)	3	
EGR 105	Foundations of Engineering I (A4)	1	
MTH 141 +	Calculus I (A1, B3)	4	
	General Education Outcome(s)*	3	
		15	

Freshman Year *Spring* Semester

Course Code	Description	Cr	
CSC 200	Computer Problem Solving	4	
EGR 106	Foundations of Engineering II (A4)	2	
ELE 101	Intro to Electrical Engineering	1	
MTH 142 +	Calculus II (A1, B3)	4	
PHY 203	Elementary Physics I (A1)	3	
PHY 273	Elementary Physics Lab I (A1)	1	
		15	

Sophomore Year *Fall* Semester

Course Code	Description	Cr	
ELE 201	Digital Circuit Design	3	
ELE 202	Digital Circuit Design Lab	1	
MTH 244	Differential Equations	3	
PHY 204	Elementary Physics II (A1)	3	
PHY 274	Elementary Physics Lab II (A1)	1	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
		17	

Sophomore Year *Spring* Semester

Course Code	Description	Cr	
ELE 205	Microprocessors	2	
ELE 206	Microprocessor Lab	1	
ELE 212 +	Linear Circuit Theory	4	
ELE 215	Linear Circuits Lab	1	
MTH 243 +	Calculus for Functions of Several Vars (A1, B3)	3	
PHY 205	Elementary Physics III Lec (A1, B3)	3	
PHY 275	Elementary Physics III Lab (A1, B3)	1	
		15	

Admission to the COE required for enrollment in "300" level and higher COE courses. Admission requires at least a 2.0 cumulative GPA and a C- or higher in each of the following; EGR 105 & 106, CHM 101/102, MTH 141 & 142, PHY 203/273, and either PHY 204/274 *or* CHM 112/114

Junior Year *Fall* Semester

Course Code	Description	Cr	
ELE 313 +	Linear Systems	3	
ELE 338 +	Electronics I	3	
ELE 339	Electronics I Lab	1	
MTH 215 +	Linear Algebra	3	
MTH 451 *or* ISE 311	Intro to Probability and Statistics *or* Probability and Statistics for Engineers	3	
	General Education Outcome(s)*	3	
		16	

Junior Year *Spring* Semester

Course Code	Description	Cr	
ELE 301	Digital Design with FPGAs	3	
ELE 302	Digital Design with FPGAs Lab	1	
ELE 314	Linear Systems and Signals	3	
ELE 322	Electromagnetic Fields I	4	
ELE 343	Electronics II	3	
ELE 344	Electronics II Lab	1	
		15	

Senior Year *Fall* Semester

Course Code	Description	Cr	
ELE 400	Intro to Professional Practice	1	
ELE 480 +	Capstone Design I (D1)	3	
	Professional Elective**	4	
	Professional Elective**	3-4	
	Technical Elective***	3-4	
		14 -16	

Senior Year *Spring* Semester

Course Code	Description	Cr	
ELE 481 +	Capstone Design II	3	
	Professional Elective**	3-4	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
		15 -16	

*General Education Outcomes: if all Outcomes are satisfied in fewer spaces than provided, you must complete additional coursework of your choice (Free Elective) to ensure you have earned at least 122 credits as required to earn a BS degree. See the "General Education Outcomes" section at the bottom of page two for more information on satisfying these requirements.

**Professional Electives:

Three (3) courses from: ELE 423/424, 425, 435/436, 446, 447/448, 456, 457, 458/459,

of which at least one (1) must include a lab component; 423/424, 435/436, 447/448, or 458/459

***Technical Elective:

Either an additional Professional Elective from the list above; or ELE 405/406, 408/409, 437, 438, 470; or, with prior approval of the Electrical, Computer, and Biomedical Engineering department chairperson, any other 300- or 400-level College of Engineering course not required by the ELE major.

Name _____   ID # _____

ELECTRICAL ENGINEERING - Catalog Year 2023   **122-125 Credits**

SPECIFIED MATH, SCIENCE, AND ENGINEERING COURSES

INTRODUCTORY ENGINEERING

Sem	Course	Cr	Grade	QP	Note
	EGR 105 (A4)	1			
	EGR 106 (A4)	2			
		3			

MATHEMATICS

Sem	Course	Cr	Grade	QP	Note
	MTH 141 (A1 & B3)	4			
	MTH 142 (A1 & B3)	4			
	MTH 215	3			
	MTH 243 (A1 & B3)	3			
	MTH 244	3			
	MTH 451 *or* ISE 311	3			
		20			

NATURAL SCIENCES

Sem	Course	Cr	Grade	QP	Note
	CHM 101 (A1)	3			
	CHM 102	1			
	PHY 203 (A1)	3			
	PHY 273 (A1)	1			
	PHY 204 (A1)	3			
	PHY 274 (A1)	1			
	PHY 205 (A1 & B3)	3			
	PHY 275 (A1 & B3)	1			
		16			

COMPUTER SCIENCE

Sem	Course	Cr	Grade	QP	Note
	CSC 200	4			
		4			

**TECHNICAL ELECTIVE

Sem	Course	Cr	Grade	QP	Note
		3-4			
		3-4			

ENGINEERING SCIENCE AND DESIGN

Sem	Course	Cr	Grade	QP	Note
	ELE 101	1			
	ELE 201	3			
	ELE 202	1			
	ELE 205	2			
	ELE 206	1			
	ELE 212	4			
	ELE 215	1			
	ELE 301	3			
	ELE 302	1			
	ELE 313	3			
	ELE 314	3			
	ELE 322	4			
	ELE 338	3			
	ELE 339	1			
	ELE 343	3			
	ELE 344	1			
	ELE 400	1			
	ELE 480 [capstone] (D1)	3			
	ELE 481 [capstone]	3			
		42			

**PROFESSIONAL ELECTIVES

Sem	Course	Cr	Grade	QP	Note
		4			
		3-4			
		3-4			
		10-13			

*GENERAL EDUCATION OUTCOMES

Sem	Course	Cr	Grade	QP	Note
Science, Technology, Engineering, and Math (STEM) (A1)					
---	CHM & PHY (see above)	15	---	---	---
Social and Behaviorial Sciences (A2)					
	ECN 201	3			
Humanities (A3)					
Arts & Design (A4)					
---	EGR 105 & 106 (see above)	3	---	---	---
Write Effectively (B1)					
Communicate Effectively (B2)					
Mathematical, Statistical, or Computational Strategies (B3)					
---	MTH (see above)	11	---	---	---
Information Literacy (B4)					

Sem	Course	Cr	Grade	QP	Note
Civic Knowledge & Responsibilities (C1)					
Global Responsibilities (C2)					
Diversity & Inclusion (C3)					
Ability to Synthesize (D1)					
---	ELE 480 (see above)	3	---		---
Grand Challenge (at least one course must be coded with a "G")					
Free Elective					
If you fulfill all Outcomes in fewer spaces than indicated on page one, you can use those					
additional spaces to take a course(s) of your choice to ensure you reach at least 120 earned credits					

*General Education Outcomes: if all Outcomes are satisfied in fewer spaces than provided, you must complete additional coursework of your choice

(Free Elective) to ensure you have earned at least 122 credits as required to earn a BS degree. See the "General Education Outcomes" section at the bottom of

page two for more information on satisfying these requirements.

**Professional Electives:

Three (3) courses from: ELE 423/424, 425, 435/436, 446, 447/448, 456, 457, 458/459,

of which at least one (1) must include a lab component; 423/424, 435/436, 447/448, or 458/459

***Technical Elective:

Either an additional Professional Elective from the list above; or ELE 405/406, 408/409, 437, 438, 470; or, with prior approval of the Electrical, Computer, and Biomedical

Engineering department chairperson, any other 300- or 400-level College of Engineering course not required by the ELE major.