

# ELECTRICAL ENGINEERING (SIEP TRACK A) - CLASS OF 2020

## 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	Intro Calculus with Analytical Geometry (A1, B3)	4	
SPA 205	Spanish Language & Style I	3	
		<b>15</b>	

## 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	Intermed Calc with Analytic Geom (B3)	4	
PHY 203	Elementary Physics I (A1)	3	
PHY 273	Elementary Physics Lab I (A1)	1	
SPA 206	Spanish Language & Style II	3	
		<b>18</b>	

## Sophomore Year Fall Semester

Course Code	Description	Cr	
ELE 201	Digital Circuits Design	3	
ELE 202	Digital Circuits Design Lab	1	
MTH 362	Advanced Engineering Mathematics I	3	
PHY 204	Elementary Physics II (A1)	3	
PHY 274	Elementary Physics Lab II (A1)	1	
	General Education Outcome(s)	3	
SPA 325	Introduction to Literary Genres	3	
		<b>17</b>	

## Sophomore Year Spring Semester

Course Code	Description	Cr	
ELE 205	Microprocessors	2	
ELE 206	Microprocessor Lab	1	
ELE 212	Linear Circuit Theory	3	
ELE 215	Linear Circuits Lab	2	
MTH 243	Calculus for Funcs. of Sev. Vars. (A1, B3)	3	
PHY 205	Elementary Physics III Lec (A1, B3)	3	
PHY 206	Elementary Physics III Lab (A1, B3)	1	
SPA 3XX/4XX or POR XXX		3	
		<b>18</b>	

## Junior Year Fall Semester

Course Code	Description	Cr	
ELE 313	Linear Systems	3	
ELE 331	Intro to Solid State Devices	4	
ELE 338	Electronics I	3	
ELE 339	Electronics I Lab	1	
MTH 451 or ISE 311	Intro to Probability and Statistics Probability and Statistics for Engineers	3	
SPA 3XX/4XX or POR XXX		3	
		<b>17</b>	

## Junior Year Spring Semester

Course Code	Description	Cr	
ELE 301	Electronic Design Automation	3	
ELE 302	Electronic Design Automation 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	
SPA 321	Spanish for Business and Technology	3	
		<b>18</b>	

## Semester Abroad

Course Code	Description	Cr	
SPA/EGR 412	Technical Spanish/Professional Elective	3	
	Engineering Course	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
SPA 3XX/4XX	(4XX if not covered before)	3	
		<b>15</b>	

## International Internship Semester

Course Code	Description	Cr	
SPA 316-317	Language Study Abroad	3-6	
		<b>3-6</b>	

## Senior Year Fall Semester

Course Code	Description	Cr	
ELE 400	Intro to Professional Practice	1	
ELE 480	Capstone Design I	3	
	Approved Professional Elective**	4	
	Approved Professional Elective**	3-4	
	General Education Outcome(s)*	3	
SPA 4XX		3	
		<b>17-18</b>	

## Senior Year Spring Semester

Course Code	Description	Cr	
ELE 481	Capstone Design II	3	
	Approved Professional Elective**	3-4	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
SPA 4XX		3	
		<b>18-19</b>	

**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 (B3)	4			
	MTH 243 (A1 & B3)	3			
	MTH 362	3			
	MTH 451 or ISE 311	3			
		17			

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			
		12			

Computer Science					
Sem	Course	Cr	Grade	QP	Note
	CSC 200	4			
		4			

Engineering Science and Design (Major)					
Sem	Course	Cr	Grade	QP	Note
	ELE 101	1			
	ELE 201	3			
	ELE 202	1			
	ELE 205	2			
	ELE 206	1			
	ELE 212	3			
	ELE 215	2			
	ELE 301	3			
	ELE 302	1			
	ELE 313	3			
	ELE 314	3			
	ELE 322	4			
	ELE 331	4			
	ELE 338	3			
	ELE 339	1			
	ELE 343	3			
	ELE 344	1			
	ELE 400	1			
	ELE 480 [capstone]	3			
	ELE 481 [capstone]	3			
		46			

**Professional Elective					
Sem	Course	Cr	Grade	QP	Note
		4			
		3-4			
		3-4			
		3-4			
		13-16			

\* **General Education Outcomes:** at least 40 credits must be completed. (A1-D1) must be met by at least three credits. A single course may satisfy one or two outcomes, and at least one course must be a "Grand Challenge". No more than twelve credits can be from the same course code except HPR. General education courses may also be used to meet requirements of your major(s) or minor(s) when appropriate.  
**\*\*Professional Electives:** Four (4) courses that satisfy *both* of the following: (a) *Three (3)* from ELE 401/402, 423, 425, 432, 435/436, 444/445, 447/448, 457, 458/459 of which at least *one (1)* must be from 401/402, 423, 432, 444/445, 447/448, and at least *one (1)* must include a lab component (401/402, 435/436, 444/445, 447/448, 458/459). (b) The *fourth* course must be from: an additional course from (a) above; BME/ELE 461; ELE 405/406, 408/409, 437, 438, 470; or with prior approval of the ECBE department chairperson, any 300- or 400-level College of Engineering course not required by the ELE major.

Spanish Language Requirements (min. 30 credits)				
Sem	Course	Cr	Gr	QP
	SPA ____	3		
	SPA ____	3		
	SPA 316	3		
	SPA 317	3		
	SPA 321	3		
	SPA 325	3		
	SPA 412	3		
	SPA 4 ____	3		
	SPA 4 ____	3		
	SPA 4 ____	3		

SPA 101, 102, 391, 392, and 393 cannot be counted towards the Spanish major and SPA 321 may only count toward the major for students in the IEP or IRP.

SPA 412 and 421 will not fulfill any of the 9 credits required that are above the 400-level, but may count toward any of the remaining credits required for the major.

LIN 202 and 220 may be used towards major requirements

The IEP requires SPA 316, 317, 321, 325, 412 and (3) 400-level Spanish Literature courses. IEP students that are beginning Spanish at the 200-level may use up to 6 credits of Portuguese toward the major, as long as all other requirements are met.

Students may opt to take summer or Jterm classes to advance in their Spanish skills at a faster pace

General Education Outcome Audit		
	Course	Credit
<b>Knowledge</b>		
A1. STEM	CHM & PHY (see above)	11
A2. Social & Behavioral Sciences	ECN 201	3
A3. Humanities	SPA 205/206 (suggested)	3
A4. Arts & Design	EGR 105 & 106	3
<b>Competences</b>		
B1. Write Effectively		
B2. Communicate Effectively		
B3. Mathematical, statistical, or computational strategies	MTH (see above)	11
B4. Information literacy		
<b>Responsibilities</b>		
C1. Civic knowledge & responsibilities		
C2. Global responsibilities	SPA 205/206 (suggested)	3
C3. Diversity and Inclusion		
<b>Inegrate &amp; Apply</b>		
D1. Ability to synthesize	TBD from major requirements	3
<b>Grand Challenge</b>		
G. Check that at least one course of your 40 credits is an approved "G" course		
Total General Education Outcome Credits		40