

# COMPUTER ENGINEERING (SIEP TRACK A) - CLASS OF 2021

## 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	
EGR 106	Foundations of Engineering II (A4)	2	
MTH 142	Intermed Calc with Analytic Geom (B3)	4	
PHY 203	Elementary Physics I (A1)	3	
PHY 273	Elementary Physics Lab I (A1)	1	
	General Education Outcome(s)*	3	
SPA 206	Spanish Language & Style II	3	
		<b>16</b>	

## Sophomore Year Fall Semester

Course Code	Description	Cr	
ELE 201	Digital Circuits Design	3	
ELE 202	Digital Circuits Design Lab	1	
ELE 208	Intro to Computer Systems	3	
ELE 209	Intro to Computer Systems Lab	1	
MTH 362	Advanced Engineering Mathematics I	3	
PHY 204	Elementary Physics II (A1)	3	
PHY 274	Elementary Physics Lab II (A1)	1	
SPA 325	Introduction to Literary Genres	3	
		<b>18</b>	

## Sophomore Year Spring Semester

Course Code	Description	Cr	
CSC 211	Intro to Programming and Design	4	
ELE 212	Linear Circuit Theory	4	
ELE 215	Linear Circuits Lab	1	
MTH 243	Calculus for Funcs. of Sev. Vars. (A1, B3)	3	
	General Education Outcome(s)*	3	
SPA 3XX/4XX		3	
		<b>18</b>	

## Junior Year Fall Semester

Course Code	Description	Cr	
CSC 212	Data Structures and Abstractions	4	
ELE 313	Linear Systems	3	
ELE 338	Electronics I	3	
ELE 339	Electronics I Lab	1	
MTH/CSC 447	Discrete Mathematics Structures	3	
SPA 3XX/4XX		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 305	Intro to Computer Architecture	3	
MTH 451	Intro to Probability and Statistics	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
SPA 321	Spanish for Business and Technology	3	
		<b>19</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 405	Digital Computer Design	3	
ELE 406	Digital Computer Design Lab	1	
ELE 437	Computer Communications	3	
ELE 480	Capstone Design I (D1)	3	
	Approved Professional Elective**	3-4	
SPA 4XX		3	
		<b>17-18</b>	

## Senior Year Spring Semester

Course Code	Description	Cr	
ELE 408	Computer Organization	3	
ELE 409	Computer Organization Lab	1	
ELE 481	Capstone Design II	3	
	Approved Professional Elective**	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
SPA 4XX		3	
		<b>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			

Engineering Science and Design (Major)					
Sem	Course	Cr	Grade	QP	Note
	ELE 201	3			
	ELE 202	1			
	ELE 208	3			
	ELE 209	1			
	ELE 212	3			
	ELE 215	2			
	ELE 301	3			
	ELE 302	1			
	ELE 305	3			
	ELE 313	3			
	ELE 338	3			
	ELE 339	1			
	ELE 400	1			
	ELE 405	3			
	ELE 406	1			
	ELE 408	3			
	ELE 409	1			
	ELE 437	3			
	ELE 480 [capstone]	3			
	ELE 481 [capstone]	3			
		45			

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 447 (CSC 447)	3			
	MTH 451	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			
		12			

Computer Science					
Sem	Course	Cr	Grade	QP	Note
	CSC 211	4			
	CSC 212	4			
		8			

**Professional Elective					
Sem	Course	Cr	Grade	QP	Note
		3			
		3			
		3-4			
		9-10			

\* **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:** Three (3) courses from the following: BME/ELE 461, BME464/465; CSC 301, 305, 402, 406, 412, 415, 436, 481; CSF 410, 412; any ELE 300- or 400- level course not required by the CPE major; *with prior approval* of the ECBE department chairperson, any ELE 500-level course.

IEP/Spanish Language Requirements (min 30 credits)				
Sem	Course	Cr	Gr	QP
	SPA 205	3		
	SPA 206	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 IPP.				
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 that students complete SPA 316, 317, and 321. IEP students must also complete SPA 412. 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.				

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 & responsibility		
C2. Global responsibilities	SPA 205/206 (suggested)	3
C3. Diversity and Inclusion		3
<b>Ingrate &amp; Apply</b>		
D1. Ability to synthesize	ELE 480	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