ELECTRICAL ENGINEERING (IIEP) - 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	
ITL XXX		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	Intermed Calc with Analytic Geom (B3)	4	
PHY 203	Elementary Physics I (A1)	3	
PHY 273	Elementary Physics Lab I (A1)	1	
ITL XXX		3	
		18	

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	
ITL XXX		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 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	
ITL XXX		3	
		18	

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 Probabilty and Statistics *or* Probability and Statistics for Engineers	3	
ITL XXX		3	
		17	

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	
ITL XXX		3	
		18	

Semester Abroad

Course Code	Description	Cr	
	Engineering Professional Elective	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
ITL 3XX or 4XX		3	
		15	

International Internship Semester

Course Code	Description	Cr	
ITL 316-317	Language Study Abroad	3-6	
		3-6	

Senior Year Fall Semester

Course Code	Description	Cr	
ELE 400	Intro to Professional Practice	1	
ELE 480	Capstone Design I (D1)	3	
	Approved Professional Elective**	4	
	Approved Professional Elective**	3-4	
	General Education Outcome(s)*	3	
ITL 4XX		3	
		17-18	

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	
ITL 4XX		3	
		18-19	

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 by 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.

Italian Language Requirements

Sem	Course	Cr	Gr	QP
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL 4___	3		
	ITL 4___	3		

ITL 100, 101, and 102 will not count toward the major. Up to three (3) credits chosen from ITL 390 or 395 may be used toward major requirements.

General Education Outcome Audit

	Course	Credit
Knowledge		
A1. STEM	CHM & PHY (see above)	11
A2. Social & Behavioral Sciences	ECN 201	
A3. Humanities	ITL 1XX/2XX (suggested)	3
A4. Arts & Design	EGR 105 & 106	3
Competences		
B1. Write Effectively		
B2. Communicate Effectively		
computational stagies	MTH (see above)	11
B4. Information literacy		
Responsibilities		
C1. Civic knowledge & responsibi		
C2. Global responsibilities	ITL 1XX/2XX (suggested)	3
C3. Diversity and Inclusion		
Inegrate & Apply		
D1. Ability to synthesize	*ELE 480*	3
Grand Challenge		
G. Check that at least one course of your 40 credits is an approved "G" course		
Total General Education Outcome Credits		40