ELECTRICAL ENGINEERING (GIEP) - 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	
GER 111	Intensive Beginning German I	4	
		16	

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	
GER 112	Intensive Beginning German II	4	
		19	

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	
GER 113	Intensive Intermediate German I	4	
		18	

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	
GER 114	Intensive Intermediate German II	4	
		19	

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	
GER 205	Conversation and Composition	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	
GER 206	Conversation and Composition	3	
		18	

Semester Abroad

Course Code	Description	Cr	
GER/EGR 411	Technical German/Professional Elective**	3	
GER 3XX		4	
GER 3XX or GER 4XX		3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
		16	

International Internship Semester

Course Code	Description	Cr	
GER 315-316	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	
GER 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	
GER 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 (ie: only four 3-credit GER classes OR three 4-credit GER classes may be used to fulfill General Education Outcomes). 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.

German Language Requirements

GER 101, 102, & 111 will not count toward major requirements.

Sem	Course	Cr	Gr	QP
	GER ____			
	GER ____			
	GER ____			
	GER ____			
	GER ____			
	GER ____			
	GER ____			
	GER ____			
	GER ____			
	GER ____			
	GER 4___	3		
6 Credits in Literature, at least 3 at 400-level				
	GER ____	3		
	GER 4___	3		
		30		

General Education Outcome Audit

	Course	Credit
Knowledge		
A1. STEM	CHM & PHY (see above)	11
A2. Social & Behavioral Sciences	ECN 201	3
A3. Humanities	GER 205/206 (suggested)	3
A4. Arts & Design	EGR 105 & 106	3
Competences		
B1. Write Effectively		
B2. Communicate Effectively		
B3. Mathematical, statistical, or computational stategies	MTH (see above)	11
B4. Information literacy		
Responsibilities		
C1. Civic knowledge & responsibi		
C2. Global responsibilities	GER 205/206 (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