Electrical Engineering Physics Track Flowchart Crd Count First Year Experience 2 Social Science I 0 4 General Chemistry I & Lab Writing and Rhetoric I 1 Calculus I 15 SLS 1501 MAC 2311 CHM 1045 & L (Group I) ENC 1101 Engineering **Engineering Drawing** Social Science II ⁰ EGN 1110C Writing and Rhetoric II or 16 31 (Group II) Calculus II Physics with Calculus I Engineering Orientation 2 ENC 1102 Computer Assisted Drawing EGS 1041 MAC 2312 PHY 2048 EGN 1002 EGN 3123 Tech, Humans, & Society Multivariable Physics with Calculus II & Lab Software Techniques Humanity I 0 15 46 Calculus PHY 2049 & L EEL 2880 (Group I) MAC 2313 Humanity II ⁰ Evaluation of **Public Speaking** Differential Equations Circuits Analysis & Circuits Lab (Group II) 16 62 **Engineering Data** MAP 2302 EEL 3110 & EEL 3110L SPC 2608⁷ PHI 2600 EIN 3235 Introduction to Ethics ☆ Introduction to Logic Design I & Lab ☆ **Engineering Economy** Intro to Fields & Waves Electronics I & Lab 17 79 Linear Systems EGN 3613 EEL 4410 EEE 3303 & L EEL 3712 & L EEL 3120 ECE Concentration Elec. Signals & Systems Thermodynamics First Year Physics Seminar Power Systems I & Lab 95 EEE/EEL XXXX EEL 3135 PHY 1033 (1) PHY 3513 (3) EEL 4213 & L ECE Concentration Elec. 12 107 **ECE Concentration** Modern Physics Intro to Classical Mechanics EEE/EEL XXXX EEE/EEL XXXX PHY 4221 (4) PHY 3106 (3) Legend: Senior Design I 6 ECE Concentration Inter. Electromagnetism I Intermediate Physic Lab 11 118 EEL 4920 EEE/EEL XXXX PHY 3802L (3) PHY 4323 (3) Prereq (enforced) Quantum Mechanics I ECE Concentration Advanced Physics Lab Senior Design II 6 128 10 Coreq (enforced) EEE/EEL XXXX PHY 4821L (3) PHY 4604 (3) EEL 4921C

⁰Check with your advisor for the new ways to meet Gordon Writing Requirement (GWR) effective Summer 2015

Foreign Language:

Other Requirements (Must be completed for graduation): GWR2:

GL2:

GWR1:

GL1:

ECE Concentration: ____/9crd

9 Summer Credit Hours:

Physics Concentration: /23crd

UCC:

Concentration Total: /38crd

^{*}Starting in Fall 2010 Freshman and Transfer Students will have to complete 6 credit hours (2 classes) that will satisfy the Global Learning Requirement. A Indicates critical courses for progress. NOTE: Any student found to be taking an EEL or EEE course without its prerequisite or co-requisite will be dropped from the course without a refund.



Total Credits: / 128

Students w/> 30 transfer credits may be able to substitute ENC 1101 & ENC 1102 with: 1) ENC 2301 and 2) then one of the following: ENC 3211, ENC 3311 or ENC 3317

²Students w/> 30 transfer credits may be able to substitute SLS 1501 & EGN 1002 with an advisor approved 3-credit technical elective

³This is an Engineering deficiency course. Any student who took a technical drafting course in high school can submit a high school transcript in order to have this requirement considered as completed ⁴Prerequisite: MAC 1105 + (MAC 1114+MAC2140) or MAC 2147 ⁵Prerequisite: Second year high school algebra or college algebra

⁶ Students are required to complete at least 100 credits towards engineering degree, including ECE core courses and Electrical Engineering Program Core before EEL 4920 registration.

EEL 4920 & EEL 4921C shall be taken during the student's last two semesters prior to graduation. EEL 4921C shall be registered the semester right after taking EEL 4920, excluding Summer terms. Neither EEL 4920 nor EEL 4921C is offered during the Summer terms. If taken on and after Fall 2012 EEL 4920 + EEL 4921C will satisfy Global Learning Course #2 (Discipline requirement). ⁷A minimum grade of C- is required for SPC 2608 Public Speaking.

Concentrations

Power	Power / Energy				
0	EEL 4213	Power Systems I			
	EEL 4213L	Energy Conversion Laboratory			
0	EEL 4214	Power II			
0	EEL 4215	Power III			
0	EEL 4241	Power Electronics			
0	EEL 5285C	Sustainable and Renewable Energy			
		Source and Their Utilization			
Control	Systems				
0	EEL 3657	Control Systems I			
0	EEL 4611	Control Systems II			
0	EEL 4611L	Systems Lab			
0	EEL 4658	Industrial Control Systems			
0	EGN 3311	Statics			
0	EGN 3321	Dynamics			
Integra	Integrated Nano-technology				
0	EEE 3303	Electronics I			
	EEE 3303L	Electronics I Lab			
0	EEE 3396	Introduction to Solid State Devices			
0	EEE 4304	Electronics II			
	EEE 4304L	Electronics II Lab			
0	EEE 4314	Integrated Circuits and Systems			
	EEE 4314L	Integrated Circuits Laboratory			
0	EEE 4421C	Intro to Nanofabrication			

Communications				
0	EEL 3514	Communication Systems		
0	EEL 3514L	Communication Lab		
0	EEL 4421	Introduction to RF Circuit Design		
0	EEL 4461C	Antennas		
0	EEL 4510	Intro. DSP		
0	EEL 4515	Adv. Communication Systems		
0	EEL 4595C	Intro. to Wireless Digital Comm.		
Bio-Engineering				
0	EEE 3303	Electronics I		
	EEE 3303L	Electronics I Laboratory		
0	EEL 4140	Filter Design		
0	BME4503C	Medical Instrumentation Design		
0	EEL 4510	Intro. DSP		
0	EEE 4421C	Intro to Nanofabrication		

Embedded System				
0	EEL 3160	Computer Applications in Electrical		
		Engineering		
0	EEL 4730	Programming Embedded Systems		
0	EEE 4734	Embedded Operating Systems		
0	EEL 4740	Embedded Computing		
0	EEL 4831	Embedded GUI Programming		
Network Forensic & Security				
0	TCN 4081	Telecommunication Network		
		Security		
0	TCN 4211	Telecommunication Networks		
0	TCN 4212	Telecommunication Network		
		Analysis and Design		
0	TCN 4431	Principles of Network Management		
		and Control Standards		
0	EEL 4789	Ethical Hacking & Countermeasures		
Cyber Security				
0	EEL 4789	Ethical Hacking & Countermeasures		
0	EEL 4802	Intro. Digital Forensics Eng.		
0	EEL 4804	Intro. Malware Reverse Eng.		
0	EEE 4717	Intro. to Security of IoT		
Computer Arch & Microprocessor Design				
0	EEE 4343	Intro. to Digital Electronics		
0	EEL 4709C	Computer Design		
0	EEL 4746	Microcomputers I		
	EEL 4746L	Microcomputers I Laboratory		
0	EEL 4747	Microcomputers II (RISC)		
	EEL 4747L	Microcomputers II Laboratory		
Data System Software				
0	MAD 2104	Discrete Mathematics		
0	COP 2210	Programming I		
0	COP 3337	Programming II		
0	COP 3530	Data Structures		
0	COP 4338	Computer Programming III		
0	COP 4604	Unix Programming		
0	COP 4610	Operating Systems Principles		
Others				
0	EEL 4015	Electrical Design in Buildings I		
0	EEL 4933	Engineering Entrepreneurship		

Concentrations:

- Student must complete 9 credits and 3 courses minimum to have a concentration
- Student must complete 1 concentration
- Electrical Engineering student must complete minimum of 38 concentration credits which cannot be from courses found in ECE Core and Electrical Engineering Program Core
- Computer Engineering student must complete minimum of 34 concentration credits which cannot be from courses found in ECE Core and Computer Engineering Program Core

NOTE: Any student found to be taking any EEL or EEE course without its prerequisite or co-requisite will be dropped from the course without a refund.