

B.S. In Electrical Engineering

Specializations: Computer engineering

Data science

Neuroengineering

Photonics, electronics, and nano-devices

Systems: communications, control, networks and signal processing

Sample Degree Plan

THIS IS ONE EXAMPLE OF MANY POSSIBLE SCHEDULES.

CONSULT A DIVISIONAL OR DEPARTMENTAL ADVISER TO CUSTOMIZE YOUR DEGREE PLAN.

FALL				SPRING			
FRESHMAN		18 credits		FRESHMAN		17 credits	
CHEM 121	General Chemistry I w/Lab	4*		ELEC 220	Fund of Computer Engineering	4*	
COMP 140	Computational Thinking**	4*		MATH 102	Single Variable Calculus II	3	
MATH 101	Single Variable Calculus I	3		PHYS 102•	Electricity & Magnetism w/Lab	4*	
PHYS 101•	Mechanics w/Lab	4*		DIST	Distribution elective	3	
FWIS	Freshman Writing	3		OPEN	Open Elective	3	
SOPHOMORE		16 credits		SOPHOMORE		16 credits	
ELEC 240	Fund of Elec Engr I Lab	1		CAAM 335	Matrix Analysis	3	
ELEC 241	Fund of Elec Engineering I	3*			or MATH 355		
ELEC 261	Electronic Mat & Quantum Devices	3		ELEC 242	Fund of Electrical Engineering II	3*	
MATH 212	Multivariable Calculus	3		ELEC 244	Fund of Electrical Engr II Lab	1	
DIST	Distribution elective	3		ELEC 305	Intro to Physical Electronics	3	
OPEN	Open Elective	3		ELEC	ECE math and science elective	3	
				DIST	Distribution elective	3	
JUNIOR		16 credits		JUNIOR		18 credits	
ELEC 301	Introduction to Signals	3		ELEC	ECE Design Lab elective	3	
ELEC 303	Random Signals	3		SPEC	Specialization elective	3	
ELEC 326	Digital Logic Design	3*		SPEC	Specialization elective	3	
OPEN	Open elective	3		DIST	Distribution elective	3	
OPEN	Open elective	3		OPEN	Open elective	3	
LPAP	Lifetime Phys Activity elective	1		OPEN	Open elective	3	
SENIOR		18 credits		SENIOR		15 credits	
ELEC 494	ECE Senior Design	3		ELEC 494	ECE Senior Design	3	
SPEC	ECE specialization elective	3		SPEC	ECE specialization elective	3	
SPEC	ECE specialization elective	3		SPEC	ECE specialization elective	3	
DIST	Distribution elective	3		DIST	Distribution elective	3	
OPEN	Open elective	3		OPEN	Open elective	3	
OPEN	Open elective	3					

* In addition to class hours, these courses have a regularly scheduled lab and/or discussion session that must fit into your schedule.

** Comp 140 in the fall followed by COMP 182 in the spring of freshman year is strongly recommended for Computer Engineering

• When registering for PHYS 101, you must also register for PHYS 103, the discussion section for 101.

•• When registering for PHYS 102, you must also register for PHYS 104, the discussion section for 102.

BASIC REQUIREMENTS	General math & science courses	33
	Core courses in major	34
ELECTIVE REQUIREMENTS	Engineering specialization electives	18–24
	Open electives and LPAP	22–28
	FWIS and distribution courses	21
Minimum credit required for the B.S.		134

Of the 134 total degree credits, the B.S. in Electrical Engineering requires at least 85 credits in general math and science courses, core courses including the design lab and senior design, and specialization electives.

Major Requirements

NUMBER	CREDIT	TITLE
CHEM 121	4*	General Chemistry I w/Lab
COMP 140**	4*	Computational Thinking/Intro to Engineering Computation
ELEC	3	ECE Math and Science elective
ELEC 220	4*	Fundamentals of Computer Engineering
ELEC 241	4*	Fundamentals of Electrical Engineering I
ELEC 242	4*	Fundamentals of Electrical Engineering II
ELEC 261 or PHYS 202	3	Electronic Materials & Quantum Devices/Modern Physics
ELEC 301	3	Introduction to Signals
ELEC 303	3	Random Signals
ELEC 305	3	Introduction to Physical Electronics
ELEC 326	3*	Digital Logic Design
ELEC 494 (x2)	4	Senior Design
ELEC 327/332/364	3	ECE Design Lab elective
MATH 101	3	Single Variable Calculus I
MATH 102	3	Single Variable Calculus II
MATH 212 or 221	3	Multivariable Calculus/Honors Calculus III
MATH 355/CAAM 335	3–4	Linear Algebra or Matrix Analysis
PHYS 101•/111	3*	Mechanics w/Lab
PHYS 102••/112	4*	Electricity and Magnetism w/Lab
SPEC	3–4	ECE Specialization elective
SPEC	3–4	ECE Specialization elective
SPEC	3–4	ECE Specialization elective
SPEC	3–4	ECE Specialization elective
SPEC	3–4	ECE Specialization elective
SPEC	3–4	ECE Specialization elective

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