

# B.A. 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		
<b>FRESHMAN</b> 15 credits			<b>FRESHMAN</b> 17 credits		
COMP 140	Computational Thinking	4**	ELEC 220	Fund of Computer Engineering	4*
MATH 101	Single Variable Calculus I	3	MATH 102	Single Variable Calculus II	3
PHYS 101•	Mechanics w/Lab	4*	PHYS 102••	Electricity & Magnetism w/Lab	4*
FWIS	Freshman Writing	3	DIST	Distribution elective	3
LPAP	Lifetime Phys Activity elective	1	OPEN	Open elective	3
<b>SOPHOMORE</b> 14 credits			<b>SOPHOMORE</b> 16 credits		
ELEC 240	Fund of Electrical Engr I Lab	1	CAAM 335	Matrix Analysis	3
ELEC 241	Fund of Electrical Engineering I	3*	or MATH 355		
ELEC 261	Electronic Mat & Quantum Devices	3	ELEC 242	Fund of Electrical Engineering II	3*
DIST	Distribution elective	3	ELEC 244	Fund of Electrical Engr II Lab	1
OPEN	Open elective	4	MATH 212	Multivariable Calculus	3
			DIST	Distribution elective	3
			OPEN	Open elective	3
<b>JUNIOR</b> 15 credits			<b>JUNIOR</b> 15 credits		
ELEC 303	Random Signals	3	ELEC 305	Intro to Physical Electronics	3
ELEC 326	Digital Logic Design	3*	ELEC	ECE Design Lab elective	3
DIST	Distribution elective	3	DIST	Distribution elective	3
OPEN	Open elective	3	OPEN	Open elective	3
SPEC	ECE specialization elective	3	OPEN	Open elective	3
<b>SENIOR</b> 16 credits			<b>SENIOR</b> 15 credits		
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	4	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	26
	Core courses in major	25
ELECTIVE REQUIREMENTS	Engineering specialization electives	12
	Open electives and LPAP	39
	FWIS and distribution courses	21
Minimum credit required for the B.A.		123

Of the 123 total degree credits, the B.A. in Electrical Engineering requires at least 63 credits in general math and science courses, core courses including design lab and specialization electives.

## Major Requirements

NUMBER	CREDIT	TITLE
COMP 140**	4*	Computational Thinking
ELEC 327/332/364	3	ECE Design Lab elective
ELEC 220	4*	Fundamentals of Computer Engineering
ELEC 240	1	Fundamentals of Electrical Engineering I Lab
ELEC 241	3*	Fundamentals of Electrical Engineering I
ELEC 242	3*	Fundamentals of Electrical Engineering II
ELEC 244	1	Fundamentals of Electrical Engineering II Lab
ELEC 261	3	Electronic Materials & Quantum Devices
ELEC 303	3	Random Signals
ELEC 305	3	Introduction to Physical Electronics
ELEC 326	3*	Digital Logic Design
MATH 101	3	Single Variable Calculus I
MATH 102	3	Single Variable Calculus II
MATH 212	3	Multivariable Calculus
MATH 355/CAAM 335	3	Linear Algebra or Matrix Analysis
PHYS 101•/111	4*	Mechanics w/Lab
PHYS 102••/112	4*	Electricity and Magnetism w/Lab
SPEC	3–4	Specialization elective
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