

# BSEE Electives

The BSEE degree program includes four distinct types of electives. They are 1) Electrical Engineering, 2) Math/Science/Technical, 3) Restricted, and 4) General Education. Descriptions and requirements for these electives are given below.

## Electrical Engineering Elective Courses – 15 Credit Hours

Choose 15 credit hours as described below.

- Any non-required ECE 30000 or above courses, except ECE 32600, ECE 32700, ECE 31500, and ECE34000
- At least 3 credit hours must be at or above 400-level.
- Courses ECE 49500 and ECE 39501 Selected Topics in Electrical Engineering are variable topic courses and might not be approved for use as an electrical engineering elective. Check with an ECE academic advisor for verification.

## Math/Science/Technical Elective Courses – 3 Credit Hours

- Any non-required course from lists of Electrical Engineering Electives or Computer Engineering Electives or Advanced Computer Engineering Electives.
- Any 300-level or above math or science course *with prior written approval* of student's advisory committee. No CSCI-N courses are allowed as electives.
- Any of the following courses.

MATH 33300: Chaotic Dynamical Systems	PHYS 53000: Electricity & Magnetism
MATH 35100: Elementary Linear Algebra	PHYS 54500: Solid State Physics
MATH 51000: Vector Calculus	PHYS 55000: Introduction to Quantum Mechanics
MATH 52000: Boundary Value Prob. of Diff. Eqn.	ECE 32600: Engineering Project Management
MATH 51100: Linear Algebra with Applications	BME 24100: Biomechanics
MATH 52300: Introduction to Partial Diff. Eqn.	BME 35200: Cell/Tissue Behavior and Properties
MATH 52500: Introduction to Complex Analysis	CSCI 24000 Computing II
MATH 52600: Principles of Math. Modeling	CSCI 30000: Systems Programming
MATH 52700: Advanced Math. Eng. & Physics I	CSCI 34000: Discrete Computational Structures
MATH 52800: Advanced Math. Eng. & Physics II	CSCI 44100: Client-Server Database Systems
MATH 53000: Functions of a Complex Variable I	CSCI 44300: Database Systems
MATH 53100: Functions of a Complex Variable II	CSCI 46300: Analysis of Algorithms
MATH 54400: Real Analysis and Measure Theory	CSCI 48700: Artificial Intelligence
BIOL K10100: Concepts of Biology I	ME 31000: Fluid Mechanics
BIOL K10300: Concepts of Biology II	ME 20000: Thermodynamics I
BIOL K32400: Cell Biology	ME 27000: Basic Mechanics I
CHEM C10600: Principles of Chemistry II	ME 27200: Mechanics of Materials
CHEM C31000: Analytical Chemistry	ME 27400: Basic Mechanics II
CHEM C34100: Organic Chemistry	ME 30100: Thermodynamics II
CHEM C36000: Elementary Physical Chemistry	ME 34000: Dynamic Systems and Measurements (2cr)
CHEM C36100: Phys. Chemistry of Bulk Matter	ME 34400: Introduction to Engineering Materials
CHEM C36200: Phys. Chemistry of Molecules	ECE 49500: Innovative Prod Design w/Emphasis Intellectual Prop
PHYS 31000: Intermediate Mechanics	NEWM-N444: Stereoscopic Production and Display
PHYS 34200: Modern Physics	Three or more 1-credit sessions of internship or co-op: ENGR 20000, ENGR 25000, ENGR 30000, ENGR 35000, ENGR 40000, ENGR 20010, ENGR 25010, ENGR 30010
PHYS 40000: Physical Optics	
PHYS 44200: Quantum Mechanics	
PHYS 52000: Mathematical Physics	

## Restricted Elective – 4 Credit Hours

Choose 4 additional credit hours from any of these approved elective lists: Electrical Engineering; Math/Science/Technical; Cultural Understanding; Arts & Humanities; Social Sciences.

**General Education Elective Courses - 9 Credit Hours:** Choose [Cultural Understanding, Arts & Hum, Social Sci](#)