

# Robotics Engineering Minor

## Degree Type

Minor

No more than 1 unit of work may overlap the major. Students considering a Robotics Engineering Minor should consult with the RBE Undergraduate Program Committee.

---

## Program Distribution Requirements for the Robotics Engineering Minor

The Minor in Robotics Engineering consists of 2 units of work distributed as follows:

### Computer Science (Minimum 1/3 Units)

Students must complete 1/3 unit Computer Science (CS) selected from the following list:

#### Computer Science Courses

Item #	Title	Units
CS 2102	Object-Oriented Design Concepts	1/3
CS 2103	Accelerated Object-Oriented Design Concepts	1/3
CS 2223	Algorithms	1/3
CS 2301	Systems Programming for Non-Majors	1/3
CS 2303	Systems Programming Concepts	1/3
CS 3733	Software Engineering	1/3

### Electrical and Computer Engineering (Minimum 1/3 Units)

Students must complete 1/3 unit of Electrical and Computer Engineering (ECE) courses selected from the following list:

#### Electrical and Computer Engineering Courses

Item #	Title	Units
ECE 2010	Introduction to Electrical and Computer Engineering	1/3
ECE 2019	Sensors, Circuits, and Systems	1/3
ECE 2029	Introduction to Digital Circuit Design	1/3
ECE 2049	Embedded Computing in Engineering Design	1/3
ECE 2311	Continuous-Time Signal and System Analysis	1/3

### Mechanical and Materials Engineering/Engineering Science Interdisciplinary (Minimum 1/3 Units)

Students must complete 1/3 unit Mechanical and Materials Engineering (ME) or Engineering Science Interdisciplinary (ES) selected from the following list:

Item #	Title	Units
ES 2501	Introduction to Static Systems	1/3
ES 2503	Introduction to Dynamic Systems	1/3
ES 3011	Control Engineering I	1/3
ME 3310	Kinematics of Mechanisms	1/3

### Robotics Engineering (Minimum 2/3 Units)

Students must complete 2/3 units selected from the following list:

#### Robotics Engineering Courses

Item #	Title	Units
RBE 1001	Introduction to Robotics	1/3
RBE 2001	Unified Robotics I: Actuation	1/3
RBE 2002	Unified Robotics II: Sensing	1/3

### Capstone Experience (Minimum 1/3 Units)

A 1/3 unit capstone experience through an RBE course at 3000-level or above.

#### 3000+ Level Robotics Engineering Courses

Item #	Title	Units
RBE 3001	Unified Robotics III: Manipulation	1/3
RBE 3002	Unified Robotics IV: Navigation	1/3
RBE 4322/ME 4322	Modeling and Analysis of Mechatronic Systems	1/3
RBE 4815	Industrial Robotics	1/3