

<b>CORE COURSES</b>			
<b>Required:</b> Choose <b>TWO</b> additional core classes from different categories. Foundational Courses may <b>not</b> be double counted as Core Courses.			
<b>MECHANICS</b>	<b>CONTROL</b>	<b>COGNITION</b>	<b>PERCEPTION</b>
<b>ROBOT 5000/</b> <b>CS 5310/</b> <b>ECE 5650/</b> <b>ME EN 5220 (3 cr)</b> Robotics I: Mechanics	<b>ROBOT 5100/</b> <b>ME EN 5230</b> <b>(3 cr)</b> Robotics II: Control	<b>* ROBOT 6200/ CS 6370/</b> <b>ME EN 6225 (3 cr)</b> Motion Planning <i>or</i> <b>CS 4300 (3 cr)</b> AI	<b>CS 4640 / BME 4640</b> <b>(3 cr)</b> Image Processing <i>or</i> <b>* CS 5320 (3 cr)</b> Computer Vision

<b>PROJECT REQUIREMENT</b> 1 credit minimum
<b>ROBOT 5920</b> (Independent) Graduate Project with faculty + presentation <i>or</i>
<b>May be fulfilled by:</b> <b>Approved Intensive Project Course *</b>
<b>ROBOT 6500 / ME EN 5240 (4 cr)</b> Advanced Mechatronics <b>ROBOT 6960 (3 cr)</b> Wearable Robotics <b>ROBOT 6200/ CS 6370/ ME EN 6225 (3 cr)</b> Motion Planning <b>CS 5320 (3 cr)</b> Computer Vision <b>ROBOT 6400/ BME 6440/ ECE 6654 (4 cr)</b> Neural Engineering and NeuroRobotics

\* Students choosing to take project-intensive courses to double count as CORE and PROJECT *may* need to take additional approved electives or the Robotics Seminar to reach the 16 credit hour minimum.

## FOUNDATIONAL COURSES

Complete **ONE SET of two courses** (students must meet course prerequisites in order to enroll)

### Set 1: MECHANICAL ENGINEERING

**ME EN 3220 (3 cr)**  
 Dynamic Systems & Control  
**ME EN 3230 (4 cr)**  
 Mechatronics

### Set 2: ELECTRICAL & COMPUTER ENGINEERING

**ECE 3610 (3 cr)**  
 Fundamentals of Robotics & Cyberphysical Systems  
**ECE 5615 (3 cr)**  
 Classical Control Systems

### or Set 3: COMPUTER SCIENCE

**CS 4300 (3 cr)**  
 Artificial Intelligence  
**CS 4640 (3 cr)**  
 Image Processing Basics