



CORE COURSES 12 credits

MECHANICS

**ROBOT 6000/ CS 6310/
ECE 6650/ ME EN 6220**
(3 cr) Robotics I:
Mechanics

CONTROL

**ROBOT 6100/
CS 6330/ ECE 6651/
ME EN 6230 (3 cr)**
Robotics II:
Control

COGNITION

***ROBOT 6200/ CS 6370/
ME EN 6225 (3 cr)**
Motion Planning
or
CS 6300 (3 cr) AI

PERCEPTION

CS 6640 / BME 6640
(3 cr) Image Processing
or
*** CS 6320 (3 cr)**
Computer Vision

ELECTIVE COURSES 3 credits

Select **1 course** from any different category:

MECHANICS

**ROBOT 7000 / ME EN 7230/
CS 7310 (3 cr)**
Manipulation, Mobility
**ROBOT 7010 / ME EN 7220/
CS 7320 (3 cr)**
System Identification

COGNITION

CS 6350 (3 cr)
Machine Learning
CS 6958
Robot Learning (3 cr)

HUMAN-ROBOT INTERACTION

CONTROL

ME EN 6200/ ECE 6615 (3 cr)
Classical Control Systems
ECE 6670 (3 cr)
Control of Electric Motors
**ME EN 6210/ECE 6652/
CH EN 6203 (3 cr)**
State Space Control
ME EN 7200 (3 cr)
Nonlinear Control
ME EN 7210 (3 cr)
Optimal Control
ECE 6570 (3 cr)
Adaptive Control

CS 6360 (3 cr) Virtual Reality
ROBOT 7400 / ME EN 7240
(3 cr) Haptics
***ROBOT 6400/BME 6440/ECE**
6654 (4 cr) Neural Engineering

DESIGN

***ROBOT 6500/ME EN 6240**
(4 cr) Adv. Mechatronics
*** ROBOT 6960 (3 cr)**
Wearable Robotics
ECE 6780/ CS 6780 (3 cr)
Embedded System Design
ECE 6960 (3 cr)
Robotic Millisystems
CS 6956 (3 cr)
Medical Robotics

PERCEPTION

CS 7640 (3 cr)
Adv. Image Processing
CS 6353 (3 cr)
Deep Learning
ECE 6530 (3 cr)
Digital Signal Processing

SEMINAR 1 credit

ROBOT 6800 (1 cr)
Robotics Seminar

PROJECT 2 credits

ROBOT 6920 Graduate Project
or

* Approved Intensive Project Courses

* 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 18 credit hour minimum.

ROBOT 6500/ ME EN 6240 (4 cr)
Advanced Mechatronics
ROBOT 6960 (3 cr)
Wearable Robotics
ROBOT 6200/ CS 6370/ ME EN 6225 (3 cr)
Motion Planning
CS 6320 (3 cr)
Computer Vision
ROBOT 6400/ BME 6640/ ECE 6654 (4 cr)
Neural Engineering