

MS Degree Requirements

Minimum 30 credits

CORE COURSES

Required

MECHANICS

ROBOT 6000
Robotics I: Me-
chanics

CONTROL

ROBOT 6100
Robotics II:
Control

COGNITION

* **ROBOT 6200**
Motion Planning
or
CS 6300
Artificial Intelligence

PERCEPTION

CS 6640
Image Processing
or
* **CS 6320**
Computer Vision

SEMINARS

ME EN 6890
or **CS 7930**
or **ECE 6900**
(Thesis option only)

ROBOT 6800
Robotics Seminar
(Enroll in 2 semesters for
1 credit each semester)

ALLIED COURSES

3 Cr. (as needed to reach the 30-credit hour coursework minimum requirement)

ELECTIVE COURSES

Select 2 classes from two different categories:

MECHANICS

ROBOT 7000
Manipulation, Mobility
ROBOT 7010
System Identification for
Robotics

COGNITION

CS 6350
Machine Learning
CS 6958
Robot Learning

CONTROL

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

DESIGN

* **ROBOT 6500**
Advanced Mechatronics
* **ROBOT 6960**
Wearable Robotics
ECE 6780/ CS 6780
Embedded System Design
ECE 6960
Robotic Millisystems
CS 6956
Medical Robotics

HUMAN-ROBOT INTERACTION

CS 6360
Virtual Reality
ROBOT 7400
Haptics for VR, Tele-
operation, and Physical
Human-Robot Interaction
* **ROBOT 6400**
Neural Engineering
and NeuroRobotics

PERCEPTION

CS 7640
Adv. Image Processing
CS 6353
Deep Learning for
Image Analysis
ECE 6530
Digital Signal
Processing

THESIS or PROJECT

ROBOT 6970 Master's Thesis
or

ROBOT 6920 Graduate Project
or

ROBOT 6920 + * Approved coursework with
intensive project (6 Credits)

*Students choosing to take project-intensive courses to fulfill the project requirement may need to take additional approved courses to reach the 30 credit hour minimum.