## MS Degree Requirements

### CORE COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>ROBOT 6000</td>
<td>Mechanics</td>
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<tr>
<td>ROBOT 6100</td>
<td>Control</td>
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<tr>
<td>ROBOT 6200</td>
<td>Motion Planning or CS 6300 Artificial</td>
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<td>Intelligence</td>
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<tr>
<td>CS 6640</td>
<td>Image Processing or CS 6320 Computer Vision</td>
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### ELECTIVE COURSES

Select 2 classes from two different categories:

**MECHANICS**
- ROBOT 7000 Manipulation, Mobility
- ROBOT 7010 System Identification for Robotics

**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, Teleoperation, and Physical Human-Robot Interaction
- ROBOT 6400 Neural Engineering and NeuroRobotics

**PERCEPTION**
- CS 7640 Adv. Image Processing
- CS 6353 Deep Learning for Image Analysis

### ALLIED COURSES

3-4 Cr. (as needed to reach the 30-credit hour coursework minimum requirement)

### THESIS or PROJECT

- ROBOT 6970 Master’s Thesis
- ROBOT 6920 Graduate Project
- ROBOT 6920 + Approved coursework with intensive project (6 Credits)

### 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)