# M.S. MECHANICAL ENGINEERING—ROBOTICS and CONTROLS

## Masters of Science in Mechanical Engineering

<table>
<thead>
<tr>
<th>Option</th>
<th>Credits Required</th>
<th>Courses Required</th>
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</thead>
<tbody>
<tr>
<td>Thesis Option</td>
<td>30</td>
<td>24 credit hours, 6 credit hours CE5559 Thesis</td>
</tr>
<tr>
<td>Project Option</td>
<td>30</td>
<td>27 credit hours, 3 credit hours CE5500 Problems</td>
</tr>
<tr>
<td>Coursework Option</td>
<td>30</td>
<td>30 credit hours</td>
</tr>
</tbody>
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## Emphasis Core Courses (Minimum of 3 Courses)

- **ME 5558** - Modern Control Systems (EVERY Spring)
- **ME 5501** - Robotics and Unmanned Systems (EVERY Spring)
- **ME 5593** - Intermediate Dynamics (EVERY Fall)

## Advanced Math (Minimum of 2 Courses)

- **ME 5501** - Optimization of Engineering Systems (EVEN Spring Semesters)
- **CE 5516** - Advanced Engineering Math (EVEN Fall Semesters)
- **ME 5572** - Advanced Statistics (EVERY Spring Semesters)

Or 400/500 course from MATH department, (Discuss options with advisor)

## Regularly Offered Elective (Maximum of 5 Courses)

- **ME 5501** - Biomedical Device Design (EVERY Spring)
- **ME 5501** - Imaging to Modeling
- **ME 5501** - Advanced Topics in Heat Transfer (EVERY Fall)
- **ME 5501** - Advanced Topics in Fluids (EVERY Fall)
- **ME 5501** - Additive Manufacturing (EVERY Fall)
- **ME 5501** - Advanced Dynamics and Modeling (EVERY Fall)
- **ME 5501** - Introduction to Biomaterials (EVERY Fall)
- **ME 5501** - Multiphase Flow (EVERY Spring)
- **ME 5501** - Turbulent Flow (ODD Spring)
- **ME 5501** - Applied Computational Fluid Dynamics (EVERY Spring)