### Mechatronic Systems Engineering

**For students entering second year in September 2016**

#### Year 2:

**Term A**
- AM 2270A Applied Mathematics for Engineering II
- ECE 2205A Electric Circuits I
- MSE 2200Q Engineering Shop Safety Training
- MSE 2201A Introduction to Electrical Instrumentation
- MSE 2212A Mechanics of Materials
- MSE 2214A Thermodynamics
- CS 1037A Computer Science Fundamentals II

**Term B**
- AM 2276B Applied Mathematics for Elec & Mech Eng III
- MSE 2202B Introduction to Mechatronic Design
- MSE 2213B Engineering Dynamics
- MSE 2233B Circuits and Systems
- ES 2211G Engineering Communications
- SS 2143B Applied Statistics and Data Analysis for Engineers

#### Year 3:

**Term A**
- AM 3415A Applied Math for Electrical Engineering
- ECE 2277A Digital Logic Systems
- ECE 3330A Control Systems
- ECE 3332A Electric Machines
- MSE 3301A Materials Selection and Manufacturing Processes
- MSE 3381A Kinematics and Dynamics of Machines

**Term B**
- ECE 3331B Signal Processing
- ECE 3375B Microprocessors and Microcomputers
- MSE 3302B Sensors and Actuators
- MSE 3360B Finite Element Methods for Mechatronic Systems Engineering
- MSE 3380B Machine Component Design for Mechatronic Systems
- 0.5 non-technical elective taken from the approved list

#### Year 4:

**Term A**
- Bus 2299E Business for Engineers
- MSE 4499 Mechatronic Design Project
- MSE 4401A Robotic Manipulators
- ECE 4457A Power Electronics
- Two 0.5 technical electives

**Term B**
- Bus 2299E Business for Engineers
- MSE 4499 Mechatronic Design Project
- ECE 4460B Real Time and Embedded Systems
- ECE 4469B Applied Control Systems
- ES 4498G Engineering Ethics, Sustainable Development and the Law
- One 0.5 technical elective

#### NOTES:

### Technical Elective List:

Some technical electives may not be offered in a given academic year. Consult the department for accurate listing.

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>ECE 3380A/B</td>
<td>Advanced Digital Systems</td>
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<tr>
<td>ECE 4429A/B</td>
<td>Advanced Digital Signal Processing</td>
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<tr>
<td>ECE 4438A/B</td>
<td>Advanced Image Processing and Analysis</td>
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<td>ECE 4445A/B</td>
<td>Biomedical Systems Analysis</td>
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<td>ECE 4455A/B</td>
<td>Engineering Analysis of Physiological Systems</td>
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<td>ECE 4468A/B</td>
<td>Systems Optimization</td>
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<td>MME 4424A/B</td>
<td>Mechanical Properties of Materials</td>
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<td>MME 4425A/B</td>
<td>Mechanical Vibrations</td>
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<td>MME 4459A/B</td>
<td>Advanced CAE: Manufacturing Technologies</td>
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<td>MME 4469A/B</td>
<td>Biomechanics of the Musculoskeletal System</td>
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<td>MME 4470A/B</td>
<td>Medical and Assistive Devices</td>
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<td>MME 4473A/B</td>
<td>Computer Integrated Manufacturing</td>
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<td>MME 4480A/B</td>
<td>Advanced CAE: Reverse Engineering</td>
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<td>MME 4482A/B</td>
<td>Fundamentals of MEMS</td>
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<td>MME 4492A/B</td>
<td>Production Management for Engineers</td>
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