

## Mechatronic Systems Engineering

September 2020 (for students who entered first year in September 2017)

<p><b>Year 2</b></p> <p><b>Term A</b></p> <p>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</p> <p><b>Term B</b></p> <p>AM 2276B Applied Mathematics for Elec. &amp; Mech. Engineering II          MSE 2202B Introduction to Mechatronic Design          MSE 2213B Engineering Dynamics          MSE 2233B Circuits and Systems          Writ 2130G Building Better (Communication) Bridges: Rhetoric &amp; Professional Communication for Engineers          MSE 2273B Introduction to Heat Transfer and Fluid Mechanics.</p> <p><b>Year 3</b></p> <p><b>Term A</b></p> <p>AM 3415A Applied Math for Electrical Engineering          ECE 2277A Digital Logic Systems          ECE 3330A Control Systems          MSE 3310A Electric Motors and Drives          MSE 3301A Materials Selection and Manufacturing Processes          MSE 3381A Kinematics and Dynamics of Machines</p> <p><b>Term B</b></p> <p>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          One 0.5-credit non-technical elective taken from the approved list</p> <p><b>Year 4</b></p> <p><b>Term A</b></p> <p>MSE 4401A Robotic Manipulators          MSE 4499 Mechatronic Design Project          ES 4498F Engineering Ethics, Sustainable Development &amp; the Law          SS 2141A Applied Probability and Statistics for Engineers          Two 0.5-credit technical electives</p> <p><b>Term B</b></p> <p>MSE 4499 Mechatronic Design Project          ECE 4460B Real Time and Embedded Systems          ECE 4469B Applied Control Systems          Two 0.5-credit non-technical electives taken from the approved list          One 0.5-credit technical elective</p>	<p><b>NOTES:</b></p> <p><b>Non-technical electives:</b>          Please choose 1.0 credits (one 1.0-credit or two 0.5-credit courses) from the 1000 level and one 0.5-credit course from the 2000 (or higher) level.</p> <p><b>Technical Electives</b>          Some technical electives may not be offered in a given academic year. Consult the Department for accurate listing.</p> <table border="1" style="width: 100%;"> <tr><td>ECE 3380A/B</td><td>Advanced Digital Systems</td></tr> <tr><td>ECE 4429A/B</td><td>Advanced Digital Signal Processing</td></tr> <tr><td>ECE 4438A/B</td><td>Advanced Image Processing and Analysis</td></tr> <tr><td>ECE 4445A/B</td><td>Introduction to Digital Image Processing</td></tr> <tr><td>ECE 4455A/B</td><td>Biomedical Systems Analysis</td></tr> <tr><td>ECE 4468A/B</td><td>Systems Optimization</td></tr> <tr><td>MME 4424A/B</td><td>Mechanical Properties of Materials</td></tr> <tr><td>MME 4425A/B</td><td>Mechanical Vibrations</td></tr> <tr><td>MME 4459A/B</td><td>Advanced CAE: Manufacturing Technologies</td></tr> <tr><td>MME 4469A/B</td><td>Biomechanics of the Musculoskeletal System</td></tr> <tr><td>MME 4470A/B</td><td>Medical and Assistive Devices</td></tr> <tr><td>MME 4473A/B</td><td>Computer Integrated Manufacturing</td></tr> <tr><td>MME 4480A/B</td><td>Advanced CAE: Reverse Engineering</td></tr> <tr><td>MME 4482A/B</td><td>Fundamentals of MEMS</td></tr> <tr><td>MME 4492A/B</td><td>Production Management for Engineers</td></tr> </table>	ECE 3380A/B	Advanced Digital Systems	ECE 4429A/B	Advanced Digital Signal Processing	ECE 4438A/B	Advanced Image Processing and Analysis	ECE 4445A/B	Introduction to Digital Image Processing	ECE 4455A/B	Biomedical Systems Analysis	ECE 4468A/B	Systems Optimization	MME 4424A/B	Mechanical Properties of Materials	MME 4425A/B	Mechanical Vibrations	MME 4459A/B	Advanced CAE: Manufacturing Technologies	MME 4469A/B	Biomechanics of the Musculoskeletal System	MME 4470A/B	Medical and Assistive Devices	MME 4473A/B	Computer Integrated Manufacturing	MME 4480A/B	Advanced CAE: Reverse Engineering	MME 4482A/B	Fundamentals of MEMS	MME 4492A/B	Production Management for Engineers
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