

Experimentation/Design Requirements

M.S. candidates must take a minimum of 3 units of course work that include an experimental/design component, for which courses on the following list are pre-approved. Students should consult with their advisors in selecting the most appropriate classes for their field.

<u>Course Number</u>	<u>Course Name</u>	<u>Unit Count</u>
AA 236A	Spacecraft Design	3
AA 236B	Spacecraft Design Laboratory	4
AA 241X	Autonomous Aircraft: Design/Build/Fly	3
AA 260	Sustainable Aviation	3
AA 274A	Principles of Robot Autonomy I	3
AA 279C	Spacecraft Attitude Determination and Control	3
AA 279D	Spacecraft Formation Flying and Rendezvous	3
AA 290 (with approval)	Problems in Aero/Astro (with experimental/design content)	3
CS 225A	Experimental Robotics	3
CS 402L (EDUC 211)	Beyond Bits and Atoms- Lab	3 - 4
EE 233/133	Analog Communications Design Laboratory	3 - 4
EE 234	Photonics Laboratory	3
EE 251	High-Frequency Circuit Design Laboratory	3
MATSCI 160	Nanomaterials Laboratory	4
MATSCI 164	Electronic and Photonic Materials and Devices Laboratory	3 - 4
MATSCI 171/161	Energy Materials Laboratory	3 - 4
MATSCI 172/162	X-Ray Diffraction Laboratory	3 - 4
MATSCI 173/163	Mechanical Behavior Laboratory	3
MATSCI 322	Transmission Electron Microscopy Laboratory	3
ME 203	Design and Manufacturing	4
ME 210	Introduction to Mechatronics	4
ME 218A	Smart Product Design Fundamentals	4 - 5
ME 218B	Smart Product Design Applications	4 - 5
ME 218C	Smart Product Design Practice	4 - 5
ME 218D	Smart Product Design: Projects	3 - 4
ME 220	Introduction to Sensors	3 - 4
ME 310A	Global Engineering Design Thinking, Innovation, and Entrepreneurship	4
ME 310B	Global Engineering Design Thinking, Innovation, and Entrepreneurship	4
ME 310C	Global Engineering Design Thinking, Innovation, and Entrepreneurship	4
ME 324	Precision Engineering	4
ME 348	Experimental Stress Analysis	3
ME 354	Experimental Methods in Fluid Mechanics	4
ME 367	Optical Diagnostics and Spectroscopy Laboratory	4

Notes: If you fulfill your Experimentation/Design requirement with a course other than AA 290 (or equivalent independent research study from another department), it is possible to count AA 290 as a technical or free elective. All courses other than seminars and your free elective must be taken for a letter grade.