

ENGINEERING TECHNOLOGY: MECHATRONICS & ROBOTICS, MS

Requirements for Students Matriculating in or before Academic Year 2024-2025. Learn more about Graduate College Academic Regulation 7.0 (<http://catalog.okstate.edu/graduate-college/#70>).

Thesis Option

Total Hours: 30

Code	Title	Hours
Core Courses (9 hours)		
MERO 5333	Learning-Based Control for Mechatronics and Robotics	3
FSEP 5013	Research Design & Methodology	3
FSEP 5023	Project Management	3
Hours Subtotal		9
Required Courses (9 hours)		
MERO 5113	Mechatronic Systems I	3
MERO 5213	Introduction to Robot Dynamics and Kinematics	3
MERO 5313	Linear Control Systems for Mechatronics	3
Hours Subtotal		9
Electives (6 hours)		
Select 6 hours:		6
MERO 5060	Emerging Topics in Mechatronics and Robotics	
MERO 5070	Directed Studies	
MERO 5133	Mechatronic System Hardware and Software Integration	
MERO 5323	Intelligent Control of Mechatronic Systems	
MERO 5413	Robotic Underwater Vehicles	
MERO 5423	Engineering Acoustics	
MERO 5433	Industrial Noise Control	
MERO 5513	Electrohydraulics	
MERO 5523	Electropneumatics	
MERO 5613	Smart Manufacturing for Mechatronics	
MERO 5633	Multiphysics Computational Modeling and Simulation	
MERO 5713	Advanced CAD for Electro-Mechanical Systems	
MERO 5723	Mechanism Design with CAD	
MERO 5733	Advanced Vibration for Electro-Mechanical Systems	
MAE 5433	Robotics, Kinematics, Dynamics and Control	
or ECEN 5433	Robotics Kinematics, Dynamics and Control	
MAE 5483	Advanced Mechatronics Design	
or ECEN 5483	Advanced Mechatronics Design	
ECEN 5233	Embedded Sensor Networks	
ECEN 5283	Computer Vision	

ECEN 5533	Modern Communication Theory	
ECEN 5553	Telecommunications Systems	
ETM 5111	Introduction to Strategy, Technology and Integration	
ETM 5143	Strategic Decision Analysis for Engineering and Technology Managers	
ETM 5153	Foundations of Engineering Management	
ETM 5221	Engineering Teaming	
ETM 5241	Strategic Project Management	
ETM 5291	Failure Mode and Effects Analysis in Design	
ETM 5371	Ethics for Practicing Engineers	
ETM 5411	Engineering Economic Analysis	
IEM 5143	Reliability and Maintainability	
ETM 5461	Intellectual Property Management	
Hours Subtotal		6
Thesis		
MERO 5000	Thesis Research	6
Hours Subtotal		6
Total Hours		30

Non-Thesis Option

Total Hours: 30

Code	Title	Hours
Core Courses		
MERO 5333	Learning-Based Control for Mechatronics and Robotics	3
FSEP 5013	Research Design & Methodology	3
FSEP 5023	Project Management	3
Hours Subtotal		9
Required Courses		
MERO 5113	Mechatronic Systems I	3
MERO 5213	Introduction to Robot Dynamics and Kinematics	3
MERO 5313	Linear Control Systems for Mechatronics	3
Hours Subtotal		9
Electives		
Select 12 hours (minimum 6 hours of MERO courses and 3 hours from ETM/IEM courses): ¹		12
MERO 5060	Emerging Topics in Mechatronics and Robotics	
MERO 5133	Mechatronic System Hardware and Software Integration	
MERO 5323	Intelligent Control of Mechatronic Systems	
MERO 5413	Robotic Underwater Vehicles	
MERO 5423	Engineering Acoustics	
MERO 5433	Industrial Noise Control	
MERO 5513	Electrohydraulics	
MERO 5523	Electropneumatics	
MERO 5613	Smart Manufacturing for Mechatronics	
MERO 5633	Multiphysics Computational Modeling and Simulation	

MERO 5713	Advanced CAD for Electro-Mechanical Systems	
MERO 5723	Mechanism Design with CAD	
MERO 5733	Advanced Vibration for Electro-Mechanical Systems	
MAE 5433	Robotics, Kinematics, Dynamics and Control	
or ECEN 5433	Robotics Kinematics, Dynamics and Control	
MAE 5483	Advanced Mechatronics Design	
or ECEN 5483	Advanced Mechatronics Design	
ECEN 5233	Embedded Sensor Networks	
ECEN 5283	Computer Vision	
ECEN 5533	Modern Communication Theory	
ECEN 5553	Telecommunications Systems	
ETM 5111	Introduction to Strategy, Technology and Integration	
ETM 5143	Strategic Decision Analysis for Engineering and Technology Managers	
ETM 5153	Foundations of Engineering Management	
ETM 5221	Engineering Teaming	
ETM 5241	Strategic Project Management	
ETM 5291	Failure Mode and Effects Analysis in Design	
ETM 5371	Ethics for Practicing Engineers	
ETM 5411	Engineering Economic Analysis	
IEM 5143	Reliability and Maintainability	
ETM 5461	Intellectual Property Management	
MERO 5070	Directed Studies ¹	
Hours Subtotal		12
Total Hours		30

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The MERO 5070 course is used for a creative component. A report (a "mini-thesis") must be submitted, prepared in the style of an M.S. thesis, but not submitted for Graduate College approval.

Graduate College Master's Program Requirements

Learn more about Graduate College 2024-2025 Master's Degree Program Requirements (<http://catalog.okstate.edu/graduate-college/>). Check the General Graduate College academic regulations for minimal GPA, language proficiency and other general requirements.