

## Controls/Robotics/Mechatronics MS Course Recommendations

Starting Even (E) Year	Autumn (E)	Winter (O)	Spring (O)	Autumn (O)	Winter (E)	Spring (E)
<b>Required Courses</b>						
Mechanical Eng. Analysis I	ME564					
Mechanical Eng. Analysis II		ME565				
<b>Mathematical Foundations</b>						
Math. Foundations of Sys.	ME510			ME510		
Manifold and Geometry					ME570 (E)	
Geometric Methods						ME580(E)
Applied Linear Algebra				Amath584		
Applied Prob. & Statistics						Amath506
<b>Mechatronics, Controls and Robotics</b>						
Linear Systems Theory	ME547					
Linear Multivariable Cont.		ME548				
Estimation and Sys. Id.			ME549			
Digital Control		ME581			ME581	
Nonlinear Control Systems			ME583(O)			
Robust Control			ME594(O)			
Feedforward Control						ME593(E)
Nonlinear Optimal Control				ME550(O)		
Optimization in Systems		ME578			ME578	
Intro. Discrete Event Sys.						ME582(E)
Syst. ID & Adaptive Control						ME585(E)
Models of Robot Manipulation		ME543(O)				
Networked Dynamic Systems						ME597(E)
<b>Dynamics</b>						
Dynamics and Vibrations	ME588			ME588		
Vibrations					ME589(E)	
Principles of Dynamics	AA571			AA571		
<b>Flight Controls</b>						
Stability/Control: Flight Vehicles	AA516			AA516		
Aut. Control of Flight Vehicles			AA518(O)			
Spacecraft Dyn. & Control		AA528			AA528	
<b>Undergraduate Courses</b>						
Automatic Control	ME471			ME471		
Instrumentation	ME473			ME473		
Embedded Computing		ME477			ME477	
Dynamics	ME469			ME469		
Electric Circuits Laboratory I		Phys344			Phys 334	
Electric Circuits Laboratory II			Phys 335			Phys 335

(O) Stands for odd year offerings, (E) for even year.

A suggested sequence is highlighted in yellow. Discuss with Faculty Advisor about alternate sequences.

Consider taking ME520 Seminar or research credits (as needed).

ME543 can be considered instead of ME581 in winter of first year

If controls background is not strong, take ME471 instead of ME510 in first year

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ME589 can be considered instead of ME581 in winter of first year

If controls background is not strong, take ME471 instead of ME510 in first year