

# MAE Course Offerings 2015-2016 by focus area

Dept Number	Cr.	Area	Official Course Title	Term
		<b>Aerospace</b>		
MAE 6950	3	AEO	Special Topics: Space Biomedical Engineering & Human Performance	Fall
MAE 4060	3	AERO	Introduction to Spaceflight Mechanics	Fall
MAE 5160	3	AERO	Spacecraft Technology and Systems Architecture	Spring
MAE 5070	3	AERO	Dynamics of Flight Vehicles	Spring
MAE 6060	3	AERO	Spacecraft Attitude Dynamics, Estimation, and Control	Spring
		<b>Applied Math</b>		
MAE 6810	3	APPLIED MATH	Methods of Applied Mathematics I	Fall
MAE 6840	3	APPLIED MATH	Asymptotics and Perturbation Methods	Fall
MAE 5790	3	APPLIED MATH	Nonlinear Dynamics and Chaos	Spring
MAE 6820	3	APPLIED MATH	Methods of Applied Mathematics II	Spring
		<b>Biomechanics</b>		
MAE 4660	3	BIO	Biomedical Engineering Analysis of Metabolic and Structural Systems	Fall
MAE 6630	3	BIO	Immuno-engineering	Fall
MAE 6640	3	BIO	Mechanics of Bone	Fall
MAE 5680	3	BIO	Soft Tissue Biomechanics	Fall
MAE 6950	3	BIO	Special Topics: Space Biomedical Engineering & Human Performance	Fall
MAE 4530	3	BIO	Computer-Aided Engineering: Applications to Biomedical Processes	Spring
MAE 6650	3	BIO	Principles of Tissue Engineering	Spring
		<b>Design, Systems &amp; Manufacturing</b>		
MAE 5930	3	DES., SYS. & MAN.	Systems Engineering and Six Sigma for the Design and Operation of Reliable Systems	Fall
		<b>Dynamics, Systems, Controls</b>		
MAE 3780	4	DSC	Mechatronics	Fall
MAE 5730	3	DSC	Intermediate Dynamics and Vibrations	Fall
MAE 5750	4	DSC	Robotic Manipulation	Fall
MAE 5780	4	DSC	Feedback Control Systems	Fall
MAE 5910	4	DSC	Model Based Systems Engineering	Fall
MAE 5950	3	DSC	Theory and Practice of Systems Architecture	Fall
MAE 6730		DSC	Introduction to Mobile Manipulation	Fall
MAE 6760	4	DSC	Model-Based Estimation	Fall
MAE 4758	4	DSC	Robot Learning	Spring
MAE 5920	3	DSC	Systems Analysis, Behavior, and Optimization	Spring
MAE 6700	3	DSC	Advanced Dynamics	Spring
MAE 6720	3	DSC	Celestial Mechanics	Spring
MAE 6780	4	DSC	Multivariable Control Theory	Spring
MAE 6950	3	DSC	Human-Robot Interaction	Spring
		<b>Energy</b>		
MAE 5020	3	ENERG	Wind Power	Fall
MAE 4580	3	ENERG	Introduction to Nuclear Science and Engineering	Fall
MAE 5459	1	ENERG	Energy Seminar I	Fall
MAE 4590	3	ENERG	Introduction to Controlled Fusion: Principles and Technology	Spring
MAE 5010	3	ENERG	Future Energy Systems	Spring
MAE 5469	1	ENERG	Energy Seminar II	Spring

		<b>General</b>		
MAE 5949	1	GEN	Enterprise Engineering Colloquium	Fall/Spring
MAE 5860	3	GEN	Automotive Engineering	Spring
		<b>Micro/Nano</b>		
MAE 6240	4	MICRO	Physics of Micro and Nanoscale Fluid Mechanics	Fall
MAE 6620		MICRO	Biomedical Technologies for Point of Care Diagnostics and Mobile and Global Health	Spring
		<b>Seminar</b>		
MAE 7999	1	SEMIN	Mechanical and Aerospace Engineering Colloquium	Fall/Spring
		<b>Solid Mechanics</b>		
MAE 4130	3	SOLIDS	Mechanics of Composite Structures	Fall
MAE 5700	4	SOLIDS	Finite Element Analysis for Mechanical and Aerospace Design (also senior design)	Fall
MAE 6110	4	SOLIDS	Foundations of Solid Mechanics I	Fall
MAE 5130	3	SOLIDS	Mechanical Properties of Thin Films	Spring
MAE 6120	4	SOLIDS	Foundations of Solid Mechanics II	Spring
MAE 6160	4	SOLIDS	Advanced Composite Materials	Spring
		<b>Thermodynamics/Fluids</b>		
MAE 4272	3	THERMO/FLUIDS	Fluids/Heat Transfer Laboratory	Fall
MAE 5430	3	THERMO/FLUIDS	Combustion Processes	Fall
MAE 6010	4	THERMO/FLUIDS	Foundations of Fluid Mechanics I	Fall
MAE 6330	3	THERMO/FLUIDS	Multiphase Flow Dynamics	Fall
MAE 6510	4	THERMO/FLUIDS	Advanced Heat Transfer	Fall
MAE 5230	4	THERMO/FLUIDS	Intermediate Fluid Dynamics	Spring
MAE 5510	3	THERMO/FLUIDS	Propulsion and Power	Spring
MAE 5650	4	THERMO/FLUIDS	Biofluid Mechanics	Spring
MAE 6430	4	THERMO/FLUIDS	Computational Combustion	Spring