

GRADUATE COURSE SUGGESTIONS BY TOPICAL AREAS

AEROSPACE RESEARCH AREA	500-LEVEL COURSES		700-LEVEL COURSES	MS Thesis / PhD Dissertation (credits required)
Aerodynamics & Applied Aerodynamics	MAE 543	MAE 537	MAE 730	MAE 695 - (9)
	MAE 539	MAE 541	MAE 731	MAE 895 - (24)
Aerospace Propulsion	MAE 575	MAE 553	MAE 704	MAE 695 – (9)
	MAE 504	MAE 560	MAE 708	MAE 895 – (24)
	MAE 550	MAE 505	MAE 766	
Aircraft Design	MAE 551	MAE 511	MAE 789 Advanced Dynamics II	MAE 695 – (9)
	MAE 561	MAE 521	MAE 721	MAE 895 – (24)
	MAE 525	MAE 531	MAE 789 Advanced Analytical Methods in Structural Vibrations	
Composite Materials and Fabrication	MAE 531	MAE 537	MAE 730	MAE 695 – (9)
	MAE 539	MAE 541	MAE 731	MAE 895 – (24)
Computational Fluid Dynamics for AE	MAE 550	MAE 504	MAE 766	MAE 695 – (9)
	MAE 560	MAE 551	MAE 770	MAE 895 - (24)
	MAE 553	MAE 561	MAE 776	
	MAE 562		MAE 704	
Flight Dynamics and Control	MAE 561	MAE 562	MAE 704	MAE 695 – (9)
	MAE 521	MAE 551	MAE 721	MAE 895 - (24)
	MAE 522		MAE 789 Advanced Analytical Methods in Structural Vibrations	

Flight Research using UAV's	MAE 525	MAE 511	MAE 789 Advanced Dynamics II	MAE 695 – (9)
	MAE 521	MAE 551	MAE 721	MAE 895 - (24)
	MAE 522	MAE 561	MAE 789 Advanced Analytical Methods in Structural Vibrations	
Space Exploration Systems Analysis and Design	MAE 511	MAE 521	MAE 789 Advanced Dynamics II	MAE 695 – (9)
	MAE 589 Space Exploration Systems	MAE 531	MAE 721	MAE 895 - (24)
	MAE 513	MAE 535	MAE 789 Advanced Analytical Methods in Structural Vibrations	
Multifunctional Materials and SMART Structures	MAE 532	MAE 536	MAE 730	MAE 695 – (9)
	MAE 539	MAE 538	MAE 734	MAE 895 - (24)
	MAE 543			
Spacecraft Dynamics, Navigation, and Control	MAE 511	MAE 522	MAE 789 Advanced Dynamics II	MAE 695 – (9)
	MAE 589 Space Exploration Systems	MAE 525	MAE 721	MAE 895 - (24)
	MAE 521	MAE 531	MAE 789 Advanced Analytical Methods in Structural Vibrations	
MECHANICAL RESEARCH AREA	500-LEVEL COURSES		700-LEVEL COURSES	MS Thesis / PhD Dissertation
Acoustics and Vibration	MAE 511	MAE 533	MAE 718	MAE 695 – (9)
	MAE 513	MAE 538	MAE 734	MAE 895 - (24)
	MAE 518	MAE 541	MAE 789	
	MAE 501	MAE 505	MAE 702	MAE 695 – (9)

Alternative and Renewable Energy	MAE 550	MAE 551	MAE 704	MAE 895 - (24)
	MAE 560	MAE 561	MAE 708	
Applied and Experimental Mechanics	MAE 513	MAE 539	MAE 730	MAE 695 – (9)
	MAE 533	MAE 541	MAE 731	MAE 895 - (24)
	MAE 537	MAE 543	MAE 734	
Bio-fluids	MAE 550	MAE 553	MAE 776	MAE 695 – (9)
	MAE 558		MAE 766	MAE 895 - (24)
Bio-mechanics	MAE 537	MAE 544	MAE 730	MAE 695 – (9)
	MAE 541	MAE 543	MAE 734	MAE 895 - (24)
Combustion	MAE 501	MAE 504	MAE 702	MAE 695 – (9)
	MAE 505	MAE 550	MAE 704	MAE 895 - (24)
Design, Manufacturing, and Material Mechanics	MAE 531	MAE 539	MAE 731	MAE 695 – (9)
	MAE 533	MAE 541	MAE 734	MAE 895 - (24)
	MAE 538	MAE 545	MAE 742	
Dynamic Systems and Control	MAE 511	MAE 535	MAE 789 Advanced Dynamics II	MAE 695 – (9)
	MAE 521	MAE 544	MAE 721	MAE 895 - (24)
	MAE 522	MAE 538	MAE 789 Advanced Analytical Methods in Structural Vibration	
Energy Conversion and Systems	MAE 501	MAE 504	MAE 702	MAE 695 – (9)
	MAE 505	MAE 540	MAE 708	MAE 895 - (24)
	MAE 513			
	MAE 504	MAE 558	MAE 704	MAE 695 – (9)

Fluid Dynamics	MAE 550	MAE 573	MAE 766	MAE 895 - (24)
	MAE 553		MAE 776	
Heat Transfer	MAE 505	MAE 501	MAE 708	MAE 695 – (9)
	MAE 560			MAE 895 - (24)
Industrial Assessment	MAE 501	MAE 550	MAE 704	MAE 695 – (9)
	MAE 505	MAE 560	MAE 708	MAE 895 - (24)
	MAE 540	MAE 589 Indus Energy	MAE 709	
Metrology	MAE 513	MAE 541	MAE 731	MAE 695 – (9)
	MAE 533	MAE 545	MAE 734	MAE 895 - (24)
	MAE 539	MAE 589 Optics	MAE 742	
Micro and Nano-MEMS	MAE 513	MAE 532	MAE 730	MAE 695 – (9)
	MAE 536	MAE 538	MAE 734	MAE 895 - (24)
	MAE 558	MAE 545		
Plasticity and Fracture	MAE 531	MAE 539	MAE 730	MAE 695 – (9)
	MAE 533	MAE 541	MAE 731	MAE 895 - (24)
	MAE 537	MAE 543	MAE 734	
Porous Media	MAE 505	MAE 501	MAE 708	MAE 695 – (9)
	MAE 539			MAE 895 - (24)
Reacting Flows	MAE 550	MAE 553	MAE 770	MAE 695 – (9)
	MAE 558		MAE 776	MAE 895 - (24)
SMART Materials	MAE 531	MAE 537	MAE 727	MAE 695 – (9)
	MAE 532	MAE 538	MAE 730	MAE 895 - (24)
	MAE 533	MAE 541	MAE 734	
Solidification	MAE 505	MAE 539	MAE 730	MAE 695 – (9)

Solidification	MAE 543			MAE 895 - (24)
Thermal Fluids	MAE 504	MAE 558	MAE 702	MAE 695 – (9)
	MAE 505	MAE 501	MAE 704 MAE 708	MAE 895 - (24)
	MAE 550			
Turbulence	MAE 504	MAE 550	MAE 766	MAE 695 – (9)
	MAE 560	MAE 573	MAE 776	MAE 895 - (24)

MAE 589 (Special Topics Courses)
Industry Energy Systems
Structural Health Monitoring
Design of Machines for Assembly
Precision Man Systems and Processes
Solar Energy
Design for Strength and Endurance
Product Design Management
Advanced IC Engines
Numerical methods for engineers
Dynamic Analysis of Human Movement
Energy Conversion
Turbulent Flows
Boundary Layer Theory
Applied Aerodynamics
Optical Engineering
Space Exploration Systems
Applied Acoustics
MAE 789 (Special Topics Courses)
Advanced Dynamics
Aerothermodynamics
Adv Analy Methods in Struct Vibration
Adv Computer Modelling