

M.S. MECHANICAL ENGINEERING—MATERIALS

MASTERS OF SCIENCE in MECHANICAL ENGINEERING

Thesis Option	30 credit hours: 24 credit hours courses, 6 credit hours CE5559 Thesis
Project Option	30 credit hours: 27 credit hours courses, 3 credit hours CE5500 Problems
Coursework Option	30 credit hours: 30 credit hours courses

ADVANCED MATH (MINIMUM OF 2 COURSES)

ME 5501-Optimization of Engineering Systems	(EVEN Spring Semesters)
CE 5516—Advanced Engineering Math	(EVEN Fall Semesters)
ME 5572-Advanced Statistics	(EVERY Spring Semesters)
or 400/500 course from MATH department,	(Discuss options with advisor)

EMPHASIS CORE COURSES (MINIMUM OF 3 COURSES)

ME 5514-Material Selection	(EVERY Fall)
ME 5544-Composites	(EVERY Spring)
ME 5525-Failure Analysis	(EVERY Spring)

REGULARLY OFFERED ELECTIVE (MAXIMUM OF 5 COURSES)

ME 5501-Biomedical Device Design (EVERY Spring)	ME 5512-Biodynamics (EVERY Spring)
ME 5501-Imaging to Modeling	ME 5513-Experimental Methods in Biomechanics (Odd Spring)
ME 5501-Advanced Topics in Heat Transfer (EVERY Fall)	ME 5524—Non-Metallic Materials (EVERY Fall)
ME 5501-Advanced Topics in Fluids (EVERY Fall)	ME 5526-Introduction to Manufacturing Management (EVERY Fall)
ME 5501-Additive Manufacturing (EVERY Fall)	ME 5533-Advanced Thermodynamics (ODD Spring)
ME 5501-Robotics and Unmanned Systems (EVERY Spring)	ME 5554-Power Generation Systems (EVERY Spring)
ME 5501-Robotic System Identification (EVERY Spring)	ME 5558-Modern Control Systems (EVERY Spring)
ME 5501-Advanced Dynamics and Modeling (EVERY Fall)	ME 5567—Fuel Cells and Renewable Energy (EVERY Spring)
ME 5501-Introduction to Biomaterials (EVERY Fall)	ME 5586-Applied Finite Element Analysis (EVERY Fall)
ME 5501—Multiphase Flow (EVEN Spring)	ME 5593-Intermediate Dynamics (EVERY Fall)
ME 5501—Turbulent Flow (ODD Spring)	
ME 5501-Applied Computational Fluid Dynamics (EVERY Spring)	
ME 5501-Fracture and Fatigue (EVERY Spring)	
ME 5511-Intro to Biomechanics (EVERY Fall)	