M.S. MECHANICAL ENGINEERING—BIOMECHANICS

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 5511—Intro to Biomechanics (EVERY Fall Semester)
ME 5512—Biodynamics (EVERY Spring Semester)
ME 5501—Biomedical Device Design (EVERY Spring Semester)

REGULARLY OFFERED ELECTIVE (MAXIMUM OF 5 COURSES)

ME 5501—Imaging to Modeling
ME 5501—Advanced Topics in Heat Transfer (EVERY Fall)
ME 5501—Advanced Topics in Fluids (EVERY Fall)
ME 5501—Additive Manufacturing (EVERY Fall)
ME 5501—Robotics and Unmanned Systems (EVERY Spring)
ME 5501—Robotic System Identification (EVERY Spring)
ME 5501—Advanced Dynamics and Modeling (EVERY Fall)
ME 5501—Introduction to Biomaterials (EVERY Fall)
ME 5501—Multiphase Flow (EVERY Spring)
ME 5501—Turbulent Flow (ODD Spring)
ME 5501—Applied Computational Fluid Dynamics (EVERY Spring)
ME 5501—Fracture and Fatigue (EVERY Spring)
ME 5513—Experimental Methods in Biomechanics (Odd Spring)
ME 5514—Material Selection (EVERY Fall)
ME 5524—Non-Metallic Materials (EVERY Fall)
ME 5525—Failure Analysis (EVERY Spring)
ME 5526—Introduction to Manufacturing Management (EVERY Fall)
ME 5533—Advanced Thermodynamics (ODD Spring)
ME 5544—Composites (EVERY Spring)
ME 5554—Power Generation Systems (EVERY Spring)
ME 5558—Modern Control Systems (EVERY Spring)
ME 5567—Fuel Cells and Renewable Energy (EVERY Spring)
ME 5586—Applied Finite Element Analysis (EVERY Fall)
ME 5593—Intermediate Dynamics (EVERY Fall)