GRADUATE COURSES

Students may use NUSMODS to search for course descriptions.

(Each graduate course of 39 lecture hours is usually assigned 4 Units, unless otherwise stated.)

General Course

ME5001A	Mechanical Engineering Project (One Semester, 4 Units)
ME5001	Mechanical Engineering Project (Two semesters, 8 Units)
ME5888M	Mechanical Engineering Internship (4 Units)

Applied Mechanics

ME5103	Plates and Shells
ME5106	Engineering Acoustics
ME5107	Vibration Theory and Applications
ME5161	Optical Techniques in Experimental Stress Analysis
ME6105	Continuum Mechanics
ME6108	Advances in Vibroacoustics

Energy & Bio-thermal Systems

ME5204	Air Conditioning and Building Automation
ME5205	Energy Engineering
ME5207	Solar Energy Systems
ME5209	Energy technologies and Systems
ME5210	Advanced Sustainable Technologies: From Soft Materials to System Design
ME5211	Nuclear Energy Technologies: Fission and Fusion Systems
ME6204	Convective Heat Transfer
ME6205	Advanced Topics in Heat and Mass Transfer

Fluid Mechanics

ME5301	Flow Systems Analysis
ME5302	Computational Fluid Mechanics
ME5303	Industrial Aerodynamics
ME5304	Experimental Fluid Mechanics
ME5305	Fundamentals of Aeroelasticity
ME5306	Compressible and High-Speed Flow
ME5309	Aircraft Engines and Rocket Propulsion
ME5311	Data-Driven Engineering and Machine Learning
ME5361	Advanced Computational Fluid Dynamics
ME5701	Mathematics for Engineering Research
ME5704	Numerical Methods in Mechanical Engineering and Robotics
ME6303	Advanced Fluid Dynamics
OT5102	Oil and Gas Technology
OT5301	Subsea Systems Engineering
OT5302	Flow Assurance
OT5303	Subsea Control
OT5304	Subsea Construction & Operational Support
OT5305	Pressures Surges in Oil & Gas Flow Systems

Control & Mechatronics

ME5401	Linear Systems
ME5402	Advanced Robotics
ME5403	Computer Control Systems
ME5404	Neural Networks
ME5405	Machine Vision
ME5406	Deep Learning for Robotics
ME5413	Autonomous Mobile Robotics
ME5414	Optimization Techniques for Dynamical Systems
ME5415	Soft Robotics
ME5422	Computer Control and Applications
ME6405	Autonomous Mobile Robotics
ME6406	Optimization Techniques for Dynamical Systems

Materials

ME5506	Corrosion of Materials
ME5513	Fracture and Fatigue of Materials
ME5516	Emerging Energy Conversion and Storage Technologies
ME5517	Nature-inspired Materials and Design
ME5518	Functional Materials for Mechanical Engineering
ME5519	Advanced Metrology for Mechanical Engineering
ME5521	Nanotechnology for Engineering Applications
ME5522	Materials and Sustainability
ME6501	Research Topics in Material Science
ME6504	Mechanical Failure Analysis: Learning from Examples
ME6505	Engineering Materials in Medicine
ME6509	Materials and Sustainability

Manufacturing

ME5608	Additive and Non-Conventional Manufacturing Processes
ME5611	Sustainable Product Design & Manufacturing
ME5612	Computer Aided Product Development
ME5616	Material Processing of Cellular Solids
ME6601	Research Topics in Manufacturing
ME6604	Modelling of Machining Processes
ME6608	Material Processing of Cellular Solids

(Not all courses listed above are necessarily available in any one year.)