

COURSES IN THE FACULTY OF MECHANICAL ENGINEERING

List of Courses for the M.Engg. Programme in Mechanical Engineering

Non-credit Courses for Mechatronics Programme

Course No	Course Title	Credit Hrs
MC-501	Electrical and Electronic for Mechanical Engineers	NC
MC-502	Introduction to A.I & Computer Architecture	NC

Compulsory Courses

(a) Design

Course No.	Course Title	Credit Hrs
ME 501	Engineering Design	3
ME 502	Advanced Stress Analysis	3
ME 503	Computer Aided Design	3
ME 504	Finite Element Analysis	3
ME 505	Mechanical Vibrations	3
TE 505	Advanced Statistics	3

(b) Energy Systems

Course No.	Course Title	Credit Hrs
ME 541	Advanced Thermodynamics	3
ME 542	Energy Management	3
ME 544	Advanced Heat Transfer	3
ME 545	Renewable Energy	3
ME 548	Advanced Fluid Mechanics	3
TE 505	Advanced Statistics	3

(c) Mechatronics

Course No.	Course Title	Credit Hrs
MC-511	Sensors and Actuators	3
MC-512	Computer Aided Mechanical Design	3
MC-513	Control Theory & Systems	3
MC-514	Kinematics & Rigid Body Dynamics	3
MC-515	Industrial Automation & Robotics	3

Elective Courses

(a) Design

Course No.	Course Title	Credit Hrs
ME 506	Acoustics	3
ME 507	Power Plant Design	3
ME 508	Kinematics and Rigid Body Dynamics	3
ME 511	Material Science	3
ME 512	Fracture Mechanics	3
ME 513	Creep	3
ME 514	Advanced Metallurgy	3
ME 521	Automation & Controls	3
ME 522	Computer Aided Manufacturing	3
ME 523	Operations Research	3
ME 524	Reliability & Quality Engineering	3
ME 527	Human Factor Engineering	3
EM 504	Project Management Framework and Tools	3
MS 552	Applied Mathematics-II	3
MS 553	Computer Applications	0
ME 600	Independent Study Project	6
ME 601	Dissertation	9

(b) Energy Systems

Course No.	Course Title	Credit Hrs
ME 504	Finite Element Analysis	3
ME 507	Power Plant Design	3
ME 523	Operations Research	3
ME 524	Reliability & Quality Engineering	3
ME 543	Combustion Engineering	3
ME 546	Energy Planning	3
ME 547	Advanced Air-Conditioning & Refrigeration	3
ME 549	Desalination	3
ME 550	Numerical Methods in Heat Transfer	3
ME 551	Introduction to Computational Fluid Dynamics	3
ME 552	Turbulence Modeling	3
EM-504	Project Management Framework and Tools	3
MS 552	Applied Mathematics-II	3
MS 553	Computer Applications	0
ME 600	Independent Study Project	6
ME 601	Dissertation	9

(c) Mechatronics

Course No.	Course Title	Credit Hrs
MC-521	Advanced Industrial Process Control	3
MC-531	Computer Aided Manufacturing	3
MC-523	Mechanical Design of Mechatronics Systems	3
MC-525	Electrical Machines & Power Electronics	3
MC-527	Microprocessor and Interfacing Applications	3
MC-529	Mathematical Modelling & Simulation	3
MC-533	Artificial Intelligence and Neural Networks	3
MC-537	Reliability Engineering	3
MC-539	Micro-& Nano-Electromechanical Systems	3
MC-541	Digital Image Processing & Machine Vision	3
MC-543	Applied Programmable Logic Control	3
MC-545	Advanced Robotics	3
ME-504	Finite Element Analysis	3
EE-512	Advanced Digital Signal Processing	3
MC-600	Independent Study Project	6
MC-601	Dissertation	9