

Semester I: Course Name	L-T-P	Credits
Chemistry for Engineers: Fundamental concepts and Applications	3-1-0	8
Calculus	3-1-0	8
Quantum Physics and Applications	2-1-0	6
Engineering Graphics Laboratory	1-0-3	5
Chemistry laboratory	0-0-3	3
Hands on Engineering Laboratory	0-0-3	3
Introduction to Fine Arts	0-0-1	1 (P/NP)
Design Thinking and Creativity	1-0-0	1 (P/NP)
National Sports Organisation	0-0-1	(P/NP)
Total Credits		35
Semester II: Course Name	L-T-P	Credits
Linear Algebra	3-1-0	4
Differential Equations - I	3-1-0	4
Electricity and Magnetism	2-1-0	6
Introduction to Electrical and Electronics Circuits	3-0-0	6
Computer Programming	3-0-2	8
Physics Laboratory	0-0-3	3
Essential Biology for Engineers	3-1-0	7
National Sports Organisation	1-0-0	(P/NP)
Introductory Engineering Project	0-0-2	2 (P/NP)
Total Credits		38
Semester III: Course Name	L-T-P	Credits
Thermodynamics	2-1-0	6
Fluid Mechanics	2-1-0	6
Engineering Mechanics	2-1-0	6
Engineering Materials	2-1-0	6
Machine Drawing and 3D Modelling Laboratory	0-0-3	3
Data Analysis	3-0-0	6
Economics	3-0-0	6
Total Credits		39
Semester IV: Course Name	L-T-P	Credits
Mechanical Measurements	3-0-0	6
Manufacturing Processes - I	3-0-0	6
Mechanics of Materials	2-1-0	6
Control System	2-0-2	6
Numerical Analysis	3-1-0	8
Manufacturing processes and Metrology Laboratory	0-0-3	3
Fluid Mechanics Laboratory	0-0-3	3
Total Credits		38
Semester V: Course Name	L-T-P	Credits
Theory of Machines	2-1-0	6
Manufacturing Processes - II	2-1-0	6
HSS Elective (Literature/Philosophy)	3-0-0	6
Heat Transfer	2-1-0	6
Design of Machine Elements	3-0-0	6
Mechanical Measurements Laboratory	0-0-3	3
Solid Mechanics Laboratory	0-0-3	3
Total Credits		36
Semester VI: Course Name	L-T-P	Credits
Environmental Studies	3-0-0	6
Applied Thermodynamics	3-0-0	6
Elective Course	3-0-0	6
Kinematics and Dynamics of Machinery Laboratory	0-0-3	3
Heat Transfer Laboratory	0-0-3	3
Manufacturing Processes Laboratory	0-0-3	3
Total Credits		27

Semester VII: Course Name	L-T-P	Credits
<i>Applied Thermodynamics Laboratory</i>	0-0-3	3
Elective Course	3-0-0	6
Elective Course	3-0-0	6
Elective Course / BTP - I	3-0-0	6
Total Credits		21
Semester VIII: Course Name	L-T-P	Credits
Elective Course	3-0-0	6
Elective Course	3-0-0	6
Elective Course / BTP - II	3-0-0	6
Total Credits		18

List of Senate Approved Electives for UG students from MMAE Department:

Synthesis of Mechanisms
 Vibrations of Linear Systems
 Composite Materials: Manufacture, Properties & Applications
 Additive Manufacturing
 Turbomachines
 Solar Energy Collector Systems
 Fundamentals of Acoustics
 Introduction to Aerospace Engineering
 Introduction to Computational Fluid Dynamics
 Introduction to Turbulence and its Modelling
 Introduction to Combustion
 Advanced Heat Transfer
 Combustion and Fire Dynamics
 Rocket Propulsion
 Convective Heat Transfer
 Experimental Methods in Thermal and Fluids Engineering
 Fluid Flow and Heat Transfer in Porous Media
 Theory of Elasticity
 Finite Element Analysis
 Fatigue and Fracture Mechanics
 Tribology
 Geometric Modeling and Computer Graphics
 Advanced Finite Element Methods
 CNC & Part Programming
 Additive Manufacturing