

## Mechanical Engineering

### 1. Course Structure

#### Humanities and Social Sciences

**18 (15:0:3)**

	<b>L:T:P</b>	<b>Credits</b>
1. English	2:0:1	3
2. Professional Communication	1:0:2	3
3. Organizations	3:0:0	3
4. Economic Citizenship	3:0:0	3
5. Energy and Entropy	3:0:0	3
6. Complexity	3:0:0	3

#### Basic Sciences

**28 (21:4:3)**

	<b>L:T:P</b>	<b>Credits</b>
1. Engineering Physics	3:0:1	4
2. Engineering Chemistry	3:0:1	4
3. Problem Solving through Programming	3:0:1	4
4. Differential Equations	3:1:0	4
5. Statistics	3:1:0	4
6. Functions of Several Variables	3:1:0	4
7. Numerical Methods and Partial Differential Equations	3:1:0	4

**Engineering Sciences****26 (19:0:7)**

	<b>L:T:P</b>	<b>Credits</b>
1. Engineering Drawing	1:0:2	3
2. Workshop	0:0:1	1
3. Engineering Materials	3:0:0	3
4. Measurements and Instrumentation	3:0:1	4
5. Ecology and Environment	3:0:0	3
6. Engineering Mechanics	3:0:1	4
7. Fluid Mechanics	3:0:1	4
8. Mechanical Engineering Systems	3:0:1	4

**Professional Subject Core****54(48:1:5)**

	<b>L:T:P</b>	<b>Credits</b>
1. Strength of Materials	3:0:1	4
2. Design of Machine Elements 1	3:0:0	3
3. Design of Machine Elements 2	3:0:0	3
4. Machine Drawing	3:0:1	4
5. Thermodynamics	3:1:0	4
6. Heat and Mass Transfer	3:0:1	4
7. Refrigeration and Air-conditioning	3:0:0	3
8. Applied Thermodynamics	3:0:0	3
9. Turbo-machines	3:0:0	3
10. Manufacturing Process 1	3:0:1	4
11. Manufacturing Process 2	3:0:0	3
12. KOM (Kinematics of Machines)	3:0:1	4
13. Quality Assurance	3:0:0	3
14. Operation Research	3:0:0	3
15. Dynamics of Machines	3:0:0	3
16. Mechanical Vibrations	3:0:0	3

**Professional Subject Electives****18 Credits****Manufacturing**

	<b>L:T:P</b>	<b>Credits</b>
1. Non-conventional Machining	3:0:0	3
2. Automation in Manufacturing	3:0:0	3
3. Computer Integrated Manufacturing	3:0:0	3

4.	Design of Experiments	3:0:0	3
5.	Advanced Manufacturing Technology	3:0:0	3
6.	Foundry Technology	3:0:0	3
7.	CAD/CAM	2:0:1	3

**Thermal Engineering**

8.	Advanced Heat and Mass Transfer	3:0:0	3
9.	Advanced Fluid Mechanics	3:0:0	3
10.	Refrigeration and Air conditioning Design	3:0:0	3
11.	Advanced Combustion Engineering	3:0:0	3
12.	Computational Fluid Dynamics	3:0:0	3
13.	Compressible Fluid Flow	3:0:0	3

**Design Engineering**

14.	Advanced Machine Design	3:0:0	3
15.	Fracture Mechanics	3:0:0	3
16.	Theory of Plasticity	3:0:0	3
17.	Theory of Elasticity	3:0:0	3
18.	Finite Element Methods	3:0:0	3
19.	Experimental Stress Analysis	3:0:0	3

**Open Electives**

1.	Total Quality Management	3:0:0	3
2.	Quality Assurance	3:0:0	3
3.	Work Study and Ergonomics	3:0:0	3
4.	Production and Operations Management	3:0:0	3
5.	Operations Research	3:0:0	3
6.	Financial management	3:0:0	3
7.	Value Engineering	3:0:0	3