

| Intake:                    |  | 2020 onwards   |                                   | Specialization: |                 | Mechanical Engineering |             |            |              |     |
|----------------------------|--|----------------|-----------------------------------|-----------------|-----------------|------------------------|-------------|------------|--------------|-----|
| Details of the Curriculum  |  |                |                                   | Stream:         |                 |                        |             |            |              |     |
| Module Code                | Module Name  | Category C/E/O | Time allocation [Hours/Week]      |                 | Credits offered |                        | Norm        |            | Evaluation % |     |
|                            |  |                | Lecture                           | Lab / Tute      | GPA             | NGPA                   | GPA         | NGPA       | CA           | WE  |
| <b>Semester 1</b>          |  |                | <b>Specialization requirement</b> |                 |                 |                        | <b>15.0</b> |            |              |     |
| ME1033                     | Mechanics  | C              | 2                                 | 2/4             | 2.0             | -                      | 15.0        | 0.0        | 20           | 80  |
| CE1023                     | Fluid Mechanics                                      | C              | 2                                 | 2/4             | 2.0             | -                      |             |            | 20           | 80  |
| CS1033                     | Programming Fundamentals                             | C              | 2                                 | 2               | 3.0             | -                      |             |            | 20           | 80  |
| EE1040                     | Electrical Fundamentals                              | C              | 2                                 | 2/4             | 2.0             | -                      |             |            | 20           | 80  |
| EL1030                     | Language Skills Enhancement [S1 & S2]                | C              | -                                 | 2               | 1.0             | -                      |             |            | 100          | -   |
| MA1014                     | Mathematics  | C              | 5/2                               | 1               | 3.0             | -                      |             |            | 20           | 80  |
| MT1023                     | Properties of Materials                              | C              | 2                                 | 2/4             | 2.0             | -                      |             |            | 20           | 80  |
|                            |  |                | <b>Total</b>                      |                 | <b>15.0</b>     | <b>0.0</b>             | <b>15.0</b> | <b>0.0</b> |              |     |
| <b>Semester 2</b>          |  |                | <b>Specialization requirement</b> |                 |                 |                        | <b>21.0</b> |            |              |     |
| ME1101                     | Mechanics of Materials I                             | C              | 2                                 | 2               | 3.0             | -                      | 21.0        | 0.0        | 30           | 70  |
| ME1071                     | Manufacturing Technology                             | C              | 1                                 | 4               | 3.0             | -                      |             |            | 70           | 30  |
| ME1120                     | Engineering Graphics and Machine Drawing             | C              | 1                                 | 4               | 3.0             | -                      |             |            | 100          | -   |
| ME1053                     | Fundamentals of Engineering Thermodynamics           | C              | 5/2                               | 2/2             | 3.0             | -                      |             |            | 30           | 70  |
| ME2041                     | Fundamentals of Mechatronics                         | C              | 1                                 | 4               | 3.0             | -                      |             |            | 50           | 50  |
| MA1024                     | Methods of Mathematics                               | C              | 5/2                               | 1               | 3.0             | -                      |             |            | 30           | 70  |
| MT1814                     | Engineering Materials                                | C              | 3/2                               | 2/2             | 2.0             | -                      |             |            | 40           | 60  |
| EL1030                     | Language Skills Enhancement [S1 & S2]                | C              | -                                 | 2               | 1.0             | -                      |             |            | 100          | -   |
|                            |  |                | <b>Total</b>                      |                 | <b>21.0</b>     | <b>0.0</b>             | <b>21.0</b> | <b>0.0</b> |              |     |
| <b>Semester 3</b>          |  |                | <b>Specialization requirement</b> |                 |                 |                        | <b>20.0</b> |            |              |     |
| ME2093                     | Mechanics of Machines I                              | C              | 2                                 | 2               | 3.0             | -                      | 20.0        | 0.0        | 40           | 60  |
| ME2061                     | Mechanics of Materials II                            | C              | 2                                 | 2               | 3.0             | -                      |             |            | 40           | 60  |
| ME2024                     | Manufacturing Processes                              | C              | 3                                 | 2               | 4.0             | -                      |             |            | 40           | 60  |
| MA2014                     | Differential Equations                               | C              | 2                                 | -               | 2.0             | -                      |             |            | 30           | 70  |
| MA2024                     | Calculus   | C              | 2                                 | -               | 2.0             | -                      |             |            | 30           | 70  |
| EE2804                     | Applied Electricity                                  | C              | 2                                 | 2               | 3.0             | -                      |             |            | 40           | 60  |
| ME2161                     | Fundamentals of Automotive Engineering               | C              | 5/2                               | 2/2             | 3.0             | -                      |             |            | 40           | 60  |
| CS2883                     | Object Oriented Programming for Mechanical Engineers | E              | 2                                 | 2               | 3.0             | -                      |             |            | -            | -   |
|                            |  |                | <b>Total</b>                      |                 | <b>23.0</b>     | <b>0</b>               | <b>20</b>   | <b>0</b>   |              |     |
| <b>Semester 4</b>          |  |                | <b>Specialization requirement</b> |                 |                 |                        | <b>22.0</b> |            |              |     |
| ME2051                     | Mechanics of Machines II                             | C              | 2                                 | 2               | 3.0             | -                      | 22.0        | 0.0        | 40           | 60  |
| ME2081                     | Design of Machine Elements                           | C              | 2                                 | 2               | 3.0             | -                      |             |            | 40           | 60  |
| ME2113                     | Fluid Dynamics                                       | C              | 5/2                               | 2/2             | 3.0             | -                      |             |            | 30           | 70  |
| ME2033                     | Thermodynamics of Heat and Work Transfer Devices     | C              | 7/2                               | 2/2             | 4.0             | -                      |             |            | 30           | 70  |
| MA3014                     | Applied Statistics                                   | C              | 2                                 | -               | 2.0             | -                      |             |            | 30           | 70  |
| ME2230                     | Instrumentation and Automation Systems               | C              | 2                                 | 2               | 3.0             | -                      |             |            | 50           | 50  |
| ME2171                     | Manufacturing Engineering                            | C              | 2                                 | 4               | 4.0             | -                      |             |            | 40           | 60  |
|                            |  |                | <b>Total</b>                      |                 | <b>22.0</b>     | <b>0.0</b>             | <b>22.0</b> | <b>0.0</b> |              |     |
| <b>Semester 5</b>          |  |                | <b>Specialization requirement</b> |                 |                 |                        | <b>20.0</b> |            |              |     |
| ME3201                     | Machine Design Project                               | C              | -                                 | 8               | 4.0             | -                      | 20.0        | 0.0        | 100          | -   |
| ME3023                     | Industrial Fluid Flow Systems                        | C              | 7/2                               | 2/2             | 4.0             | -                      |             |            | 40           | 60  |
| ME3013                     | Control Systems Engineering                          | C              | 5/2                               | 2/2             | 3.0             | -                      |             |            | 40           | 60  |
| ME3043                     | Production and Operations Management                 | C              | 3                                 | 2               | 4.0             | -                      |             |            | 40           | 60  |
| MA3024                     | Numerical Methods                                    | C              | 2                                 | -               | 2.0             | -                      |             |            | 30           | 70  |
| MA3030                     | Operational Research                                 | C              | 2                                 | -               | 2.0             | -                      |             |            | 30           | 70  |
| ME3880                     | Engineer and Society [S5 & S6]                       | C              | -                                 | 2               | 1.0             | -                      |             |            | 80           | 20  |
|                            |  |                | <b>Total</b>                      |                 | <b>20.0</b>     | <b>0.0</b>             | <b>20.0</b> | <b>0.0</b> |              |     |
| <b>Industrial Training</b> |  |                | <b>Specialization requirement</b> |                 |                 |                        | <b>6.0</b>  |            |              |     |
| ME3993                     | Industrial Training                                  | C              | -                                 | -               | -               | 6.0                    | 0.0         | 6.0        | 100          | -   |
|                            |  |                | <b>Total</b>                      |                 | <b>0.0</b>      | <b>6.0</b>             | <b>0</b>    | <b>6</b>   |              |     |
| <b>Semester 6</b>          |  |                | <b>Specialization requirement</b> |                 |                 |                        | <b>10.0</b> |            |              |     |
| ME3902                     | Technical Communication for Engineering              | C              | -                                 | 4               | 2.0             | -                      | 8.0         | 0.0        | 100          | -   |
| ME3330                     | Mechanical Engineering Project Formulation           | C              | 1                                 | 2               | 2.0             | -                      |             |            | 100          | -   |
| ME3910                     | Social/Community Project                             | C              | 1                                 | 2               | 2.0             | -                      |             |            | 100          | -   |
| ME3880                     | Engineer and Society [S5 & S6]                       | C              | 1                                 | 2               | 2.0             | -                      |             |            | 100          | -   |
| HM-1                       | Humanities Elective                                  | E              | -                                 | -               | 2.0             | -                      |             |            | 2.0          | 0.0 |
|                            |  |                | <b>Total</b>                      |                 | <b>10.0</b>     | <b>0.0</b>             | <b>10.0</b> | <b>0.0</b> |              |     |

|                    |  |                                   |                        |     |              |            |              |            |     |    |    |    |
|--------------------|--|-----------------------------------|------------------------|-----|--------------|------------|--------------|------------|-----|----|----|----|
| <b>Intake:</b>     | 2020 onwards   | <b>Specialization:</b>            | Mechanical Engineering |     |              |            |              |            |     |    |    |    |
| <b>Semester 7</b>  |  | <b>Specialization requirement</b> |                        |     |              |            | <b>12.0</b>  |            |     |    |    |    |
| ME4203             | Final Year Project [S7 & S8]                             | C                                 | 1                      | 4   | 3.0          | -          | 6.0          | 0.0        | 100 | -  |    |    |
| MN3043             | Business Economics and Financial Accounting              | C                                 | 3                      | -   | 3.0          | -          |              |            | 30  | 70 |    |    |
| ME4443             | Heat Transfer  | E                                 | 5/2                    | 2/2 | 3.0          | -          | 6.0          | 0.0        | 30  | 70 |    |    |
| ME4243             | Energy Systems Engineering                               | E                                 | 5/2                    | 2/2 | 3.0          | -          |              |            | 30  | 70 |    |    |
| ME4463             | Industrial Automation Systems                            | E                                 | 2                      | 2   | 3.0          | -          |              |            | 60  | 40 |    |    |
| ME4311             | Micro/Nano Electro Mechanical Systems and Nanotechnology | E                                 | 2                      | 2   | 3.0          | -          |              |            | 40  | 60 |    |    |
| ME4453             | Industrial Project Management                            | E                                 | 2                      | 2   | 3.0          | -          |              |            | 40  | 60 |    |    |
| ME4533             | Industrial Ergonomics                                    | E                                 | 2                      | 2   | 3.0          | -          |              |            | 40  | 60 |    |    |
| ME4333             | Computer Aided Design & Manufacture                      | E                                 | 2                      | 2   | 3.0          | -          |              |            | 40  | 60 |    |    |
| ME4513             | Industrial Products and Machinery Development            | E                                 | 1                      | 4   | 3.0          | -          |              |            | 70  | 30 |    |    |
| ME4830             | Biomechatronics  | E                                 | 2                      | 2   | 3.0          | -          |              |            | 40  | 60 |    |    |
| ME4373             | Aerodynamics   | E                                 | 7/2                    | 2/2 | 4.0          | -          |              |            | -   | -  | 40 | 60 |
| ME4433             | Computational Fluid Dynamics                             | E                                 | 5/2                    | 2/2 | 3.0          | -          | -            | -          | 50  | 50 |    |    |
| <b>Total</b>       |  |                                   |                        |     | <b>40.0</b>  | <b>0.0</b> | <b>12.0</b>  | <b>0.0</b> |     |    |    |    |
| <b>Semester 8</b>  |  | <b>Specialization requirement</b> |                        |     |              |            | <b>12.0</b>  |            |     |    |    |    |
| ME4203             | Final Year Project [S7 & S8]                             | C                                 | 1                      | 8   | 5.0          | -          | 5.0          | 0.0        | 100 | -  |    |    |
| ME4393             | Advanced Manufacturing Engineering                       | E                                 | 2                      | 2   | 3.0          | -          |              |            | 40  | 60 |    |    |
| ME4473             | Computer Aided Engineering                               | E                                 | 2                      | 4   | 4.0          | -          | 7.0          | 0.0        | 60  | 40 |    |    |
| ME4423             | Energy Conservation                                      | E                                 | 5/2                    | 2/2 | 3.0          | -          |              |            | 30  | 70 |    |    |
| ME4383             | Refrigeration and Air Conditioning                       | E                                 | 7/2                    | 2/2 | 4.0          | -          |              |            | 40  | 60 |    |    |
| ME4503             | Robotics   | E                                 | 3                      | 2   | 4.0          | -          |              |            | 40  | 60 |    |    |
| ME4673             | Control Systems Design                                   | E                                 | 5/2                    | 2/2 | 3.0          | -          |              |            | 50  | 50 |    |    |
| ME4730             | Engineering Decision Making and Risk Assessment          | E                                 | 5/2                    | 2/2 | 3.0          | -          |              |            | 60  | 40 |    |    |
| ME4073             | Industrial Engineering                                   | E                                 | 3                      | 2   | 4.0          | -          |              |            | 40  | 60 |    |    |
| ME4211             | Auditory and Visual Comfort                              | E                                 | 5/2                    | 2/2 | 3.0          | -          |              |            | 30  | 70 |    |    |
| ME4663             | Mould Design   | E                                 | 2                      | 2   | 3.0          | -          |              |            | -   | -  | 40 | 60 |
| ME4633             | Automotive Engineering                                   | E                                 | 7/2                    | 2/2 | 4.0          | -          |              |            | -   | -  | 40 | 60 |
| <b>Total</b>       |  |                                   |                        |     | <b>43</b>    | <b>0</b>   | <b>12.0</b>  | <b>0.0</b> |     |    |    |    |
| <b>Grand Total</b> |  |                                   |                        |     | <b>194.0</b> | <b>6.0</b> | <b>132.0</b> | <b>6.0</b> |     |    |    |    |

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|--|--|--------------|
| Total credit requirement for the Specialization  |  | <b>138.0</b> |
| Faculty/Specialization Electives beyond the specialization requirements [refer faculty electives table]* |  | <b>12.0</b>  |
| <b>TOTAL CREDIT REQUIREMENT FOR GRADUATION</b>   |  | <b>150.0</b> |

| Service modules |   |          |                              |            |         |      |             |              |    |
|-----------------|---|----------|------------------------------|------------|---------|------|-------------|--------------|----|
| Code            | Module Name   | Semester | Time allocation [Hours/Week] |            | Credits |      | Offered to  | Evaluation % |    |
|                 |   |          | Lecture                      | Lab / Tute | GPA     | NGPA |             | CA           | WE |
| ME1091          | Engineering Drawing & Computer Aided Modelling              | 2        | 1                            | 4          | 3       | -    | MT, ER      | 100          | -  |
| ME1823          | Fundamentals of Engineering Thermodynamics and Applications | 3,4      | 5/2                          | 2/2        | 3       | -    | CSE, EE, TT | 30           | 70 |
| ME2833          | Mechanics of Machines                                       | 4        | 3/2                          | 2/2        | 2       | -    | MT          | 30           | 70 |
| ME2851          | Fundamentals of Machine Elements Design                     | 4        | 2                            | 2          | 3       | -    | MT          | 30           | 70 |
| ME3813          | Machine Design  | 5        | 1                            | 2          | 2       | -    | MT          | 100          | -  |
|                 |   |          |                              |            |         |      |             |              |    |
|                 |   |          |                              |            |         |      |             |              |    |