

| Semester 1 | | Contact hours | Contact hours | Credit hours |
|-------------|------------------------------------|---------------|---------------|--------------|
| Course Code | Course Title | Theory | Lab. | Total |
| BSI-173 | Calculus & Analytical Geometry | 3 | 0 | 3 |
| MtE-101 | Engineering Statics | 3 | 0 | 3 |
| MtE-103L | Workshop Practice | 0 | 6 | 2 |
| MtE-110 | Electric Circuits Analysis | 3 | 3 | 4 |
| MtE-141 | Communication Skills | 2 | 0 | 2 |
| BSI-101 | Islamic Studies | 2 | 0 | 2 |
| | 2-day Seminar on Health and Safety | 0 | 0 | 0 |
| | | | | |
| | Total Contact Hours | 13 | 9 | 16 |
| | Total Credit Hours | 13 | 3 | 16 |

| Semester 3 | | Contact hours | Contact hours | Credit hours |
|-------------|---|---------------|---------------|--------------|
| Course Code | Course Title | Theory | Lab. | Total |
| BSI-112 | Vector Calculus | 3 | 0 | 3 |
| MtE-201 | Dynamics | 3 | 0 | 3 |
| MtE-205 | Electronic Principles & Devices | 3 | 3 | 4 |
| MtE-221 | Materials & Manufacturing Processes | 3 | 0 | 3 |
| MtE-231 | Data Structures and Object Oriented Programming | 3 | 3 | 4 |
| MtE-207 | Solid Modeling | 0 | 3 | 1 |
| MtE-254 | Professional Ethics* | 2 | 0 | 2 |
| | | | | |
| | Total Contact Hours | 17 | 9 | |
| | Total Credit Hours | 17 | 3 | 20 |

| Semester 5 | | Contact hours | Contact hours | Credit hours |
|-------------|--|---------------|---------------|--------------|
| Course Code | Course Title | Theory | Lab. | Total |
| MtE-351 | Probability Methods in Engineering | 3 | 0 | 3 |
| MtE-311 | Fluid Mechanics, Hydraulics and Pneumatics | 2 | 3 | 3 |
| MtE-318 | Microcontrollers and Embedded Systems | 2 | 6 | 4 |
| MtE-317 | Transducers & Instrumentation | 3 | 3 | 4 |
| MtE-301 | Modeling and Simulation | 3 | 0 | 3 |
| MtE-323 | Theory of Machines | 2 | 3 | 3 |
| | | | | |
| | Total Contact Hours | 15 | 15 | |
| | Total Credit Hours | 15 | 5 | 20 |

| Semester 7 | | Contact hours | Contact hours | Credit hours |
|-------------|---|---------------|---------------|--------------|
| Course Code | Course Title | Theory | Lab. | Total |
| MtE-405 | Robotics | 3 | 3 | 4 |
| MtE-455 | Entrepreneurship, Leadership and Team Mgt** | 3 | 0 | 3 |
| MtE-4xx | Engineering Elective II | 3 | 0 | 3 |
| MtE-453 | Engineering Economics | 3 | 0 | 3 |
| MtE-441 | Final Year Project | 0 | 9 | 3 |
| MtE-99 | Community Service Learning**** | 1 | 3 | 2 |
| | | | | |
| | Total Contact Hours | 13 | 15 | |
| | Total Credit Hours | 13 | 5 | 16 |

| Semester 2 | | Contact hours | Contact hours | Credit hours |
|-------------|----------------------------|---------------|---------------|--------------|
| Course Code | Course Title | Theory | Lab. | Total |
| BSI-232 | ODE & Linear Algebra | 3 | 0 | 3 |
| BSI-110 | Pakistan Studies | 2 | 0 | 2 |
| MtE-104L | Engineering Drawing | 0 | 6 | 2 |
| BSI-181 | Applied Physics | 3 | 3 | 4 |
| MtE-132 | Computer Programming | 2 | 3 | 3 |
| MtE-159 | Technical Report Writing | 2 | 0 | 2 |
| MtE-155 | Organizational Behaviour* | 2 | 0 | 2 |
| | | | | |
| | Total Contact Hours | 14 | 12 | |
| | Total Credit Hours | 14 | 4 | 18 |

| Semester 4 | | Contact hours | Contact hours | Credit hours |
|-------------|-------------------------------|---------------|---------------|--------------|
| Course Code | Course Title | Theory | Lab. | Total |
| BSI-362 | Transforms & Complex Analysis | 3 | 0 | 3 |
| MtE-211 | Electronic Circuits Design | 3 | 3 | 4 |
| MtE-218 | Signals and Systems | 2 | 0 | 2 |
| MtE-222 | Mechanics of Materials | 2 | 3 | 3 |
| MtE-226 | Actuating Systems | 3 | 3 | 4 |
| MtE-233 | Digital Logic Design | 2 | 3 | 3 |
| | | | | |
| | Total Contact Hours | 15 | 12 | |
| | Total Credit Hours | 15 | 4 | 19 |

| Semester 6 | | Contact hours | Contact hours | Credit hours |
|-------------|----------------------------------|---------------|---------------|--------------|
| Course Code | Course Title | Theory | Lab. | Total |
| MtE-313 | Power Electronics*** | 3 | 0 | 3 |
| MtE-325 | Mechatronics Systems Design | 2 | 2 | 4 |
| MtE-313 | Power Electronics*** | 3 | 0 | 3 |
| MtE-325 | Mechatronics Systems Design | 2 | 2 | 4 |
| MtE-328 | Control Systems | 3 | 1 | 4 |
| MtE-341 | Design of Machine Elements | 2 | 0 | 2 |
| MtE-345 | Fundamentals of Thermal Sciences | 3 | 1 | 4 |
| MtE-350 | Numerical Methods | 2 | 0 | 2 |
| | | | | |
| | Total Contact Hours | 15 | 12 | |
| | Total Credit Hours | 15 | 4 | 19 |

| Semester 8 | | Contact hours | Contact hours | Credit hours |
|-------------|----------------------------|---------------|---------------|--------------|
| Course Code | Course Title | Theory | Lab. | Total |
| MtE-4xx | Engineering Elective III | 3 | 0 | 3 |
| MtE-422 | Industrial Automation | 2 | 3 | 3 |
| MtE-441 | Final Year Project | 0 | 9 | 3 |
| | | | | |
| | | | | |
| | | | | |
| | Total Contact Hours | 5 | 12 | |
| | Total Credit Hours | 5 | 4 | 9 |

Total Credit Hours = 137