



Symbiosis Skills and Professional University

B.Tech - Mechatronics Engineering
(Bachelor of Technology- Mechatronics Engineering)

Program Structure
2018-19

Symbiosis Skills and Professional University

School of Mechatronics Engineering

Program Structure of B. Tech(Mechatronics Engineering)- Semester-I

Semester-I

| S.No | Course Code | Course Name | Hours | | | | | | Credits | | | | |
|------|-------------|--------------------------------------|-----------|----------|----------|-----------|----------|-----------|----------|----------|----------|----------|-----------|
| | | | C | L | T | P | S | H | L | T | P | S | C |
| 1 | APSC101 | Applied Mathematics I | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 |
| 2 | APSC102 | Applied physics | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 3 | ENGG104 | Applied Thermodynamics | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 4 | ENGG102 | Computer Programming | 3 | 1 | 0 | 2 | 1 | 4 | 1 | 0 | 1 | 1 | 3 |
| 5 | ENGG105 | Basics of Electrical and Electronics | 3 | 1 | 0 | 2 | 1 | 4 | 1 | 0 | 1 | 1 | 3 |
| 6 | IDCS101 | IDSC-I | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 3 | 3 |
| 7 | IEVS100 | Environmental | 3 | 2 | | | 1 | 3 | 2 | | | 1 | 3 |
| | | | 24 | 9 | 1 | 10 | 9 | 29 | 9 | 1 | 5 | 8 | 24 |

Semester-II

| Sr No | Course Code | Course Name | Hours | | | | | | Credits | | | | |
|-------|-------------|---------------------------------------|-----------|----------|----------|-----------|-----------|-----------|----------|----------|----------|-----------|-----------|
| | | | C | CL | T | P | S | H | L | T | P | S | C |
| 1 | APSC104 | Applied Mathematics II | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 |
| 2 | APSC103 | Applied | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 3 | ENGG101 | Engineering | 4 | 0 | 0 | 2 | 3 | 5 | 0 | 0 | 1 | 3 | 4 |
| 4 | ENGG106 | Material Science and Engineering | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 5 | MTRX101 | Mechatronics Engineering Fundamentals | 3 | 1 | 0 | 2 | 1 | 4 | 1 | 0 | 1 | 1 | 3 |
| 6 | ENGG108 | Workshop | 3 | 0 | 0 | 2 | 2 | 4 | 0 | 0 | 1 | 2 | 3 |
| 7 | IDSC102 | IDSC-2(life coping | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 3 | 3 |
| 8 | MTRX102 | Internship | 8 | | | | | | | | | | 8 |
| | | | 33 | 6 | 1 | 12 | 12 | 31 | 6 | 1 | 6 | 12 | 33 |

Symbiosis Skills and Professional University

School of Mechatronics Engineering Course Structure

Semester-III

| Sr No | Course Code | Course Name | Hours | | | | | | Credits | | | | |
|-------|-------------|--------------------------------|-----------|----------|----------|-----------|-----------|-----------|----------|----------|----------|-----------|-----------|
| | | | C | CL | T | P | S | H | L | T | P | S | C |
| 1 | APSC201 | Applied Mathematics III | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 |
| 2 | MTRX201 | Analog and Digital Electronics | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 3 | AUTO202 | Manufacturing Technology | 3 | 1 | 0 | 2 | 1 | 4 | 1 | 0 | 1 | 1 | 3 |
| 4 | ENGG103 | Engineering Mechanics | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 5 | ENGG204 | Fluid Mechanics | 3 | 1 | 0 | 2 | 1 | 4 | 1 | 0 | 1 | 1 | 3 |
| 6 | MTRX202 | Matlab and Simulink | 3 | 0 | 0 | 2 | 2 | 4 | 0 | 0 | 1 | 2 | 3 |
| 7 | IDSC201 | IDSC-3(life coping skill) | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 3 | 3 |
| | | | 24 | 7 | 1 | 12 | 10 | 30 | 7 | 1 | 6 | 11 | 24 |

Semester-IV

| Sr No | Course Code | Course Name | Hours | | | | | | Credits | | | | |
|-------|-------------|---|-----------|----------|----------|-----------|-----------|-----------|----------|----------|----------|-----------|-----------|
| | | | C | CL | T | P | S | H | L | T | P | S | C |
| 1 | MTRX203 | Control Engineering | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 2 | ENGG202 | Computer Aided Design | 3 | 0 | 0 | 2 | 2 | 4 | 0 | 0 | 1 | 2 | 3 |
| 3 | ENGG107 | Strength of Materials | 3 | 1 | 0 | 2 | 1 | 4 | 1 | 0 | 1 | 1 | 3 |
| 4 | MTRX205 | Microprocessor and Application | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 |
| 5 | MTRX204 | Electronic Measurements and Instrumentation | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 6 | ENGG201 | Heat and Mass transfer | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 |
| 7 | IDSC202 | IDSC-4(life coping skill) | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 3 | 3 |
| 8 | MTRX207 | Internship | 8 | | | | | | | | | | 8 |
| | | | 33 | 7 | 2 | 12 | 10 | 31 | 7 | 2 | 6 | 10 | 33 |

| Symbiosis Skills and Professional University | | | | | | | | | | | | | |
|---|-----------------------------------|--|-----------|----------|----------|-----------|----------|-----------|----------|----------|----------|----------|-----------|
| School of Mechatronics Engineering | | | | | | | | | | | | | |
| Course Structure of B. Tech(Mechatronics Engineering) | | | | | | | | | | | | | |
| Semester-V | | | | | | | | | | | | | |
| Sr No | Course Code | Course Name | Hours | | | | | | Credits | | | | |
| | | | C | CL | T | P | S | H | L | T | P | S | C |
| 1 | MTRX301 | Industrial Robotics | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 |
| 2 | MTRX302 | Communication Systems | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 3 | MTRX303 | Power Electronics and Drives | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 4 | MTRX206 | Digital Signal Processing | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 5 | AUTO201 | Theory of Mechanism | 3 | 1 | 0 | 2 | 1 | 4 | 1 | 0 | 1 | 1 | 3 |
| 6 | MTRX305/06 /07 | Elective-I 1. Process Automation 2. Automotive Electronics 3. Computer Integrated Manufacturing | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 |
| 7 | IDSC301 | IDSC-5(life coping skill) | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 3 | 3 |
| | Audit Corse | Disaster Management | | | | | | | | | | | |
| | | | 26 | 7 | 3 | 10 | 8 | 32 | 9 | 2 | 6 | 9 | 26 |
| Semester-VI | | | | | | | | | | | | | |
| Sr No | Course Code | Course Name | Hours | | | | | | Credits | | | | |
| | | | C | CL | T | P | S | H | L | T | P | S | C |
| 1 | MTRX308 | Industrial Automation | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 |
| 2 | MTRX309 | Mechatronics System Design | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 3 | MTRX314 | Renewable Energy System | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 |
| 4 | ENGG203 | Dynamics of Machinery | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 |
| 5 | MTRX311 | Product Development | 4 | 2 | 0 | 2 | 1 | 5 | 2 | 0 | 1 | 1 | 4 |
| 6 | Elective-II MTRX312 AUTO309 | 1.Mechatronicin Medical Applications 2. Hybrid and Electric Vehicle 3. Rapid Prototyping | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 4 |

| | | | | | | | | | | | | | |
|---|---------|---------------------------|-----------|----------|----------|-----------|----------|-----------|----------|----------|----------|----------|-----------|
| | MTRX313 | | | | | | | | | | | | |
| 7 | IDSC302 | IDSC-6(life coping skill) | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 3 | 3 |
| 8 | MTRX317 | Internship | 8 | | | | | | | | | | 8 |
| | | | 35 | 8 | 4 | 12 | 9 | 33 | 8 | 4 | 6 | 9 | 35 |

| Symbiosis Skills and Professional University | | | | | | | | | | | | | | |
|---|-------------------------------|---|----|-------|---|---|---|----|---------|---|---|---|---|----|
| School of Mechatronics Engineering | | | | | | | | | | | | | | |
| Course Structure of B. Tech(Mechatronics Engineering) | | | | | | | | | | | | | | |
| Semester-VII | | | | | | | | | | | | | | |
| Sr No | Course Code | Course Name | C | Hours | | | | | Credits | | | | | |
| | | | | CL | T | P | S | H | L | T | P | S | C | |
| 1 | MTRX401 | Internship | 13 | | | | | | | | | | | 13 |
| 2 | MTRX402 | Seminar | 2 | | | | | | | | | | | 2 |
| | | | 15 | | | | | | | | | | | 15 |
| Semester-VIII | | | | | | | | | | | | | | |
| Sr No | Course Code | Course Name | C | Hours | | | | | Credits | | | | | |
| | | | | CL | T | P | S | H | L | T | P | S | C | |
| 1 | MTRX304 | Internet of Things | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 1 | 4 |
| 2 | ENGG301 | Reliability Engineering | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 1 | 4 |
| 3 | Elective-III MTRX310/15/16 | 1)Digital Hardware Design and Analysis 2) Building Automation 3) Total Quality Management | 4 | 1 | 1 | 2 | 1 | 5 | 1 | 1 | 1 | 1 | 1 | 4 |
| 4 | MTRX403 | Project | 13 | | | | | | | | | | | 13 |
| 5 | MTRX404 | Seminar | 2 | | | | | | | | | | | 2 |
| 6 | IDSC401 | IDSC-7 [Life Coping Skills] | 3 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 3 | 3 | 3 |
| | | | 30 | 3 | 3 | 6 | 6 | 18 | 3 | 3 | 3 | 3 | 3 | 30 |

24+33+24+33+26+35+15+30

Total credits: 220