

Symbiosis University of Applied Sciences**ORDINANCE No. 22****SCHOOL OF MECHATRONICS ENGINEERING**

1. The School of Mechatronics Engineering offers a range of Certificate, Diploma, Degrees, Masters and Doctorate programs in line with the industry requirement. The curriculum has been designed in consultation with the industry to ensure that the students are job ready and employable on completion of the course from the University. Each course within the program is modular and credit based. Learning outcomes and skill competency levels expected from students have been clearly defined. Duration of the program shall be four years and validity shall be seven years or as defined by the concerned regulatory body from time to time.
2. The Program structure allows multi-entry & multi-exit facility to students. The policy for multi-entry & exit shall be prescribed by the statutory bodies of the University from time to time.
3. Vertical mobility will be provided from certificate to degree programs to provide career progression from one job role to the next. The students will have the option to accumulate and transfer credits to relevant programs of the University over a period of time. The policy for Credit Banking and Transfer will be prescribed by the by the statutory bodies of the University from time to time.
4. Teaching learning will focus on hands on practical training. The learning will organized to integrate practical training into day to day lectures. Teaching learning methods for all the programs shall include class room teaching, assignment, viva voce, lab work, skill training, seminar, project work, summer training, internships, industrial semesters, field work, presentation, group discussion etc.
5. Evaluation methodology will comprise combination of formative and summative assessments.
6. An important component of evaluation system shall be the skill assessment of students. For each module, within the program there shall be a skill set clearly defined. The students will be required to master that skill to move to the next level.

7. Program offered by the School of Mechatronics are:-

S. No	Name of Program
1.	Post-Doctoral Program
2.	Ph.D.
3.	M. Tech in Mechatronics
4.	B. Tech in Mechatronics Engineering
5.	a) Diploma in Mechatronics b) Diploma in Industrial Automation c) Diploma in Industrial Electronics d) Diploma Program in other areas as per industry needs.
6.	a) Certificate in Mechatronics (Basic & Advance) b) Certificate in Automation (Basic) c) Certificate in PLC d) Certificate in Electrical Machines e) Certificate in Power Electronics and Control f) Certificate in Pneumatics and Hydraulics Control System g) Certificate in Robotics and Machine Vision h) Certificate Programs in other areas as per industry needs.

8. Program Objectives of B. Tech in Mechatronics Engineering

8.1 B.Tech in Mechatronics is combination of Mechanical, Electronics, and Electrical, which includes control systems used to automate products manufacturing with built-in intelligence. Mechatronics engineering course blends the pertinent aspects of automatic system modelling, sensors, actuators, controllers and real-time computer interfacing. The study will be focused on the interface between Mechanical Engineering and Electronics and Electrical Engineering. First two years build a strong foundation of mathematics, material science, applied physics, engineering drawing, computer science, applied mechanics, basics of electronics, engines, manufacturing etc.

8.2 In subsequent semesters, students are given exposure to industrial automation, basic and advance mechatronics, PLCs, Drives, quality engineering, automatic product development, manufacturing processes and execution of products in the industrial

environment. Overall the course is structured in a way to give a well-rounded knowledge and practical training to the student on which he can build further and become a valuable contributor in the professional world.

9. Program Objectives of M.Tech in Mechatronics / other related specialization areas

9.1 M.Tech in Mechatronics will build on the foundation of Mechanical, Electronics, and Electrical Engineering. Students will be equipped to do automatic system modeling and real-time computer interfacing. The study will be focused on the interface between Mechanical Engineering and Electronics and Electrical Engineering.

9.2 Student will be studying Credit courses and electives from the list of given courses. Evaluation Component includes seminars, presentation, viva -voce, industrial training, internship, written tests and lab assignments. Thesis component will be introduced in 3rd & 4th Semester.

10. Program Objectives of Doctor of Philosophy in Engineering and Technology with a specialization in Mechatronics

10.1 The Doctoral Program will provide students unparalleled expertise in Engineering and Technology with specialization in Mechatronics. The Ph.D. program will provide skills necessary to succeed as scholars and develop ability to think critically and identify opportunities for new frameworks and insights, and the technical expertise to turn those opportunities into published research.

10.2 The eligibility criteria and duration of Ph.D. program shall be as prescribed by the regulatory body and University from time to time.

11. Program Objectives of Diploma programs

11.1 A broad range advance skill based diploma programs shall be offered in the field of Mechatronics. The diploma programs shall be mapped to the requirement of skilled workforce in the respective sectors. Emphasis shall be given on new emerging technologies and skill competencies in demand in the market.

12. Program Objective of Certificate programs

12.1 A broad range of short term skill based certificate programs will be offered in the field of Mechatronics. These short term programs shall be responsive to the industry needs and job opportunities in the market and shall emphasize upon skill up gradation and exposure to latest technologies.

