

## **Symbiosis University of Applied Sciences**

### **Ordinance No. 3 of 2016**

#### **SCHOOL OF AUTOMOBILE & MANUFACTURING ENGINEERING**

The School of Automobile & Manufacturing Engineering will offer a range of Certificate, Diploma and Degree programmes 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 programme is modular and credit based. Learning outcomes and skill competency levels expected from students have been clearly define. 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.

The Programme 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.

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.

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.

Evaluation methodology will comprise combination of formative and summative assessments.

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.

Programmes offered by the School of Automobile & Manufacturing Engineering in the Automobile Sector are:-

S. No	Name of Programme
1.	<b>B. Tech in Automobile Engineering</b> (Manufacturing, Design & Testing, Mechatronics)
2.	a) Diploma in Auto Mechatronics b) Diploma in Auto Design c) Diploma in Vehicle Testing d) Diploma in Auto Technician (Basic & Advance) e) Diploma in Auto Sales & Insurance f) Diploma in Quality Control
3.	a) Certificate in Mechatronics (Basic & Advance) b) Certificate in Vehicle Testing (Basic) c) Certificate in Engine Testing d) Certificate in IC Engines e) Certificate in Product Development f) Certificate in MATLAB / Simulink g) Certificate in CAD/CAM h) Certificate in Regulatory Compliances i) Certificate in Reliability Engineering j) Certificate in Safety

### Program Objective of B. Tech in Automobile 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. It also builds an understanding of the automobile sector as a whole. After 2 years there is one semester of Industrial Training in the area in which the student wants to specialize. First four semesters also include laboratory work. Depending on the stream of specialization appropriate lab classes are planned. Students also have an access to the workshop where the automobile vehicles and components including engine and its parts are displayed, thereby helping the student to get familiarized with the vehicles and components, their functions, and location in the automobile assembly. Semesters 6 & 7 include specialized subjects depending on the stream being pursued. Students are also given a flavour of quality engineering, auto product development, manufacturing processes which have become key factors in successful execution of products in the industrial environment. Syllabus includes subjects of contemporary and emerging technologies, like electric drive and controls, fuel cells. Engineering tools like MATLAB and Simulink are a part of the curriculum. 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.

**The Certificate, Diploma and Degree programmes in Manufacturing sector are:-**

S. No	Name of Programme
1.	<b>B. Tech in Manufacturing Engineering</b> (Tool and Die Making, Machine Tool Design, Industrial Engineering)
2.	<ul style="list-style-type: none"> <li>a) Diploma in Machinist</li> <li>b) Diploma in Tool Making</li> <li>c) Diploma in Tool Design</li> <li>d) Diploma in Machine Maintenance</li> <li>e) Diploma in Quality Control</li> <li>f) Diploma in Mechatronics</li> </ul>
3.	<ul style="list-style-type: none"> <li>a) Certificate in Mechatronics (Basic &amp; Advance)</li> <li>b) Certificate in Industrial Automation</li> <li>c) Certificate in Hydraulics &amp; Pneumatics</li> <li>d) Certificate in Machine Operations</li> <li>e) Certificate in CAE/CAD</li> <li>f) Certificate in Robotics</li> </ul>

### **Program Objective of B. Tech in Manufacturing 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. It also builds an understanding of the manufacturing sector as a whole. After 2 years there is one semester of Industrial Training in the area in which the student wants to specialize. First four semesters also include laboratory work. Depending on the stream of specialization appropriate lab classes are planned. Students will have extensive lab work in Manufacturing Workshop covering both traditional and non- traditional manufacturing processes. Semesters 6 & 7 include specialized subjects focussing on Machine designing, Tool & Die Making and Industrial Engineering. Students are given a flavour of quality engineering, design for manufacturing and assembly manufacturing processes, manufacturing management, digital factory. 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. 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.