

# UNIVERSITY OF MUMBAI



Revised syllabus (Rev- 2016) from Academic Year 2016 -17

Under

## FACULTY OF TECHNOLOGY

### **Production Engineering**

**Second Year with Effect from AY 2017-18**

**Third Year with Effect from AY 2018-19**

**Final Year with Effect from AY 2019-20**

As per **Choice Based Credit and Grading System**

with effect from the AY 2016-17

**Co-ordinator, Faculty of Technology's Preamble:**

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited. In line with this Faculty of Technology of University of Mumbai has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty of Technology, University of Mumbai, in one of its meeting unanimously resolved that, each Board of Studies shall prepare some Program Educational Objectives (PEOs) and give freedom to affiliated Institutes to add few (PEOs). It is also resolved that course objectives and course outcomes are to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. It was also resolved that, maximum senior faculty from colleges and experts from industry to be involved while revising the curriculum. I am happy to state that, each Board of studies has adhered to the resolutions passed by Faculty of Technology, and developed curriculum accordingly. In addition to outcome based education, semester based credit and grading system is also introduced to ensure quality of engineering education.

Choice based Credit and Grading system enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. University of Mumbai has taken a lead in implementing the system through its affiliated Institutes and Faculty of Technology has devised a transparent credit assignment policy and adopted ten points scale to grade learner's performance. Credit assignment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 12-13 weeks and remaining 2-3 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

Choice based Credit and grading system is implemented from the academic year 2016-17 through optional courses at department and institute level

**Dr. S. K. Ukarande**

**Co-ordinator,**

**Faculty of Technology,**

**Member - Academic Council**

**University of Mumbai, Mumbai**

**Chairman's Preamble:**

Engineering education in India is expanding and is set to increase manifold. The major challenge in the current scenario is to ensure quality to the stakeholders along with expansion. To meet this challenge, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education and reflects the fact that in achieving recognition, the institution or program of study is committed and open to external review to meet certain minimum specified standards. The major emphasis of this accreditation process is to measure the outcomes of the program that is being accredited. Program outcomes are essentially a range of skills and knowledge that a student will have at the time of graduation from the program. In line with this Faculty of Technology of University of Mumbai has taken a lead in incorporating the philosophy of outcome based education in the process of curriculum development.

As the Chairman, Board of Studies in Mechanical Engineering of the University of Mumbai, I am happy to state here that, the Program Educational Objectives of the Undergraduate Program in Production Engineering, which comes under the same board, were finalized during the multiple brain storming sessions, which was attended by more than 25 members from different affiliated Institutes of the University. They are either Heads of Departments or their senior representatives from the Department of Production Engineering. The Program Educational Objectives finalized for the undergraduate program in Production Engineering are listed below;

1. To prepare the Learner with a sound foundation in the mathematical, scientific and engineering fundamentals related to Manufacturing and its strategies.
2. To motivate the Learner in the art of self-learning and to use modern tools for solving real life problems.
3. To inculcate a professional and ethical attitude, good leadership qualities and commitment to social responsibilities in the Learner's thought process.
4. To prepare the learner to face industrial challenges through practical exposure in an industrial environment.
5. To prepare the Learner for a successful career in Indian and Multinational Organizations.

In addition to Program Educational Objectives, for each course of the program, objectives and expected outcomes from a learner's point of view are also included in the curriculum to support the philosophy of outcome based education. I strongly believe that even a small step taken in the right direction will definitely help in providing quality education to the major stakeholders.

**Dr. S. M. Khot**

**Chairman, Board of Studies in Mechanical Engineering, University of Mumbai**

**B.E. (Production) Sem.-VII**

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned			Total		
		Theory	Pract	Theory	Pract	Total			
<b>PEC701</b>	Industrial Training & Project	--	5*8=40	--	20	20			
Course Code	Course Name	<b>Examination Scheme</b>							
		<b>Theory</b>				Term Work	Pract. /Oral	Total	
		<b>Internal Assessment</b>			End Sem. Exam.				Exam. Duration (in Hrs)
		<b>Presentation</b>		Avg.					
		<b>Stage1</b>	<b>Stage2</b>						
<b>PEC701</b>	Industrial Training & Project	50	50	50	--	--	100	50	200
<b>Total</b>		--	--	<b>50</b>	--	--	<b>100</b>	<b>50</b>	<b>200</b>

\* Industrial Training and Project work should be of 24 weeks. (Learners load – 8 hours a day and 5days a week translates into 40 contact hours per week)

**Workload of Teacher: Contact hours for project guidance – One hour per student per week**

Course Code	Course Name	Credits
<b>PEC701</b>	<b>Industrial Training and Project</b>	<b>20</b>

### Objectives:

1. To correlate with the lessons learnt in theory and actual practices followed in the industries.
2. To give exposure to an industrial environment/discipline.
3. To familiarize with the need for a coordinated effort of various persons at different levels in different departments for achieving the set goals and targets.

### Outcomes: Learner will be able to...

1. Demonstrate managerial skills.
2. Identify the size and scale of operations in Industry.
4. Apply the knowledge in problem solving.
5. Demonstrate an understanding of various constraints in industry.
6. Demonstrate the scope, functions and job responsibilities in various departments of an organization.
7. Develop a positive attitude while dealing in professional manner.

### Guidelines for Evaluation/Assessment

The total duration for each presentation shall be maximum 30 minutes, inclusive of 20 minutes for presentation and 10 minutes for discussion. 50 marks each for stage I and stage II to be awarded based on the points furnished below and as per the discretion of the internal project guide.

1. Contents of the presentation.
2. Presentation skills.
3. Interest taken, personal involvement and contribution.
4. Headway/progress made in the project execution.

### Evaluation/Assessment of the Term Work

1. Introduction, Acknowledgements, references.	}	10
2. Company background/ activities.		
3. Training areas / Training details.		
4. Synopsis / Abstract of the Project.		10
5. General presentation, neatness and accuracy of the data furnished.		15
6. Technical contents of the report with data / observations, graphs, drawings, etc.		25
7. Quality of work carried out and details furnished based on personal Observations/involvement.		30
8. Results/ Conclusion.		10

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Total - 100

**Note: Report shall be prepared using University of Mumbai approved Guidelines, as applicable.**