

Walchand College of Engineering

(Government Aided Autonomous Institute)

Vishrambag, Sangli. 416415



***** Platinum Jubilee Year *****

**Credit System for
S.Y. M.Tech. (Production Engineering)
Sem-III and IV**

2021-22



Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

Credit System for S.Y. M.Tech. (Production Engineering) Sem-III AY 2021-22

Sr.No.	Category	Course Code	Course Name	L	T	P	I	Hrs	Cr	T1/LA1	T2/LA2	ESE
Professional Core (Theory)												
1	PC	5PR601	Legal, Financial aspects of Industrial Project	2	0	0	0	2	2	20	20	60
Professional Core (Lab)												
2	PR	5PR690	Dissertation Phase 1	0	0	20	0	20	10	30	30	40
3	PC	5PR602	Industry Orientation Course	0	0	0	1	1	1	30	30	40
Professional Elective (Theory)												
4	PE	Refer list	Elective 5	2	0	0	0	2	2	20	20	60
Professional Elective (Lab)												
5	PR	Refer list	Activity Based Elective Lab 2	0	0	2	0	2	1	30	30	40
Value Added Professional Courses # (Listed separately)												
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Value Added Life-Skill Courses # (Listed separately)												
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Total				4	0	22	1	27	16			



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Elective Course List for S.Y. M.Tech. (Production Engineering) Sem-III AY 2021-22

Sr.No.	Track	Course Code	Course Name
Activity Based Elective Lab 2			
1	Manufacturing Technology	5PR651	Manufacturing Planning and Control Lab
2	Industrial Engineering	5PR652	Organizational Behavior Lab
3	Manufacturing Technology	5PR653	Flexible Manufacturing System Lab
4	Mechatronics and Automation	5PR654	Digital Manufacturing and Industry 4.0 Lab
Elective 5			
1	Manufacturing Technology	5PR611	Manufacturing Planning and Control
2	Industrial Engineering	5PR612	Organizational Behavior
3	Manufacturing Technology	5PR613	Flexible Manufacturing System
4	Mechatronics and Automation	5PR614	Digital Manufacturing and Industry 4.0

Notes:

For Lab courses: There shall be only internal continuous assessment (LA1, LA2, ESE). LA1 and LA2 together shall be Lab ISE. The ESE is a separate head of passing.

For Theory courses: There shall be two tests (T1 and T2) and one ESE. The ESE is a separate head of passing.

The Value Added Courses are Optional Courses. The mode of teaching (LTPI) is decided by the resource person.

The credits earned from these courses will be shown on grade card. For SGPA and CGPA calculation, these courses will be excluded.

The list of Value added courses will be updated from time to time. The courses may be on paid basis. These courses will be offered as per availability of faculty.

The contact hours of each dissertation with the guide (research supervisor) shall be of one hour per week.

For further details, refer to Academic and Examination rules and regulations.



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Credit System for S.Y. M.Tech. (Production Engineering) Sem-IV AY 2021-22

Sr.No.	Category	Course Code	Course Name	L	T	P	I	Hrs	Cr	T1/LA1	T2/LA2	ESE	
Professional Core (Theory)													
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Professional Core (Lab)													
1	PR	5PR691	Dissertation Phase 2	0	0	24	0	24	12	30	30	40	
2	PR	5PR671	Techno-Socio Activity	0	0	0	1	1	1	30	30	40	
Professional Elective (Theory)													
3	PE	Refer list	Elective 6	3	0	0	0	3	3	20	20	60	
Value Added Professional Courses # (Listed separately)													
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Value Added Life-Skill Courses # (Listed separately)													
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Total				3	0	24	1	28	16				



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Elective Course List for S.Y. M.Tech. (Production Engineering) Sem-IV AY 2021-22

Sr.No.	Track	Course Code	Course Name
Elective 6			
1	Advanced Materials	5PR621	Manufacturing of nonmetallic Products,
2	Modeling and simulation	5PR622	Modeling and simulation in manufacturing,
3	Manufacturing Technology	5PR623	Material Handling Systems

Notes:

For Lab courses: There shall be only internal continuous assessment (LA1, LA2, ESE). LA1 and LA2 together shall be Lab ISE. The ESE is a separate head of passing.

For Theory courses: There shall be two tests (T1 and T2) and one ESE. The ESE is a separate head of passing.

The Value Added Courses are Optional Courses. The mode of teaching (LTPI) is decided by the resource person.

The credits earned from these courses will be shown on grade card. For SGPA and CGPA calculation, these courses will be excluded.

The list of Value added courses will be updated from time to time. The courses may be on paid basis. These courses will be offered as per availability of faculty.

@ Minimum two AICTE mandatory courses need to be completed for award of degree.

The contact hours of each dissertation with the guide (research supervisor) shall be of one hour per week.

For further details, refer to Academic and Examination rules and regulations.



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Tracks and Semester-wise Elective Courses for M.Tech. (Production Engineering) AY 2021-22

Sr.No.	Sem	Elective	Course Code	Course Name
Advanced Materials				
1	2	Elective 4	5PR527	Processing of Plastics and Composites,
2	Activity Based Elective		5PR579	Processing of Plastics and Composites Lab
3	4	Elective 6	5PR621	Manufacturing of nonmetallic Products,
Industrial Engineering				
1	1	Elective 1	5PR511	Quality Engineering for Manufacturing
2	1	Elective 2	5PR514	Precision Engineering,
3	1	Elective 2	5PR516	Project Management,
4	1	Elective 2	5PR517	Costing and Cost control
5	2	Elective 4	5PR526	Product Lifecycle Management,
6	2	Elective 4	5PR529	Optimization and Quantitative Techniques
7	Activity Based Elective		5PR578	Product Lifecycle Management Lab
8	Activity Based Elective		5PR581	Optimization and Quantitative Techniques Lab
9	3	Elective 5	5PR612	Organizational Behavior
10	Activity Based Elective		5PR652	Organizational Behavior Lab
Manufacturing Technology				
1	1	Elective 1	5PR512	Finite Element method in Manufacturing
2	1	Elective 1	5PR513	Industrial Hydraulics and Pneumatics
3	1	Elective 2	5PR515	Design for Manufacturing and Assembly
4	2	Elective 3	5PR524	Additive Manufacturing,
5	2	Elective 4	5PR528	Advanced Tool Design,
6	Activity Based Elective		5PR576	Additive Manufacturing Lab
7	Activity Based Elective		5PR580	Advanced Tool Design Lab
8	3	Elective 5	5PR611	Manufacturing Planning and Control
9	3	Elective 5	5PR613	Flexible Manufacturing System
10	Activity Based Elective		5PR651	Manufacturing Planning and Control Lab
11	Activity Based Elective		5PR653	Flexible Manufacturing System Lab
12	4	Elective 6	5PR623	Material Handling Systems



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Tracks and Semester-wise Elective Courses for M.Tech. (Production Engineering) AY 2021-22

Sr.No.	Sem	Elective	Course Code	Course Name
Mechatronics and Automation				
1	2	Elective 3	5PR525	Micro-Electro-Mechanical Systems
2	Activity Based Elective		5PR577	Micro-Electro-Mechanical Systems Lab
3	3	Elective 5	5PR614	Digital Manufacturing and Industry 4.0
4	Activity Based Elective		5PR654	Digital Manufacturing and Industry 4.0 Lab
Modeling and simulation				
1	2	Elective 3	5PR523	CAD / CAM / CNC
2	Activity Based Elective		5PR575	CAD / CAM / CNC Lab
3	4	Elective 6	5PR622	Modeling and simulation in manufacturing,



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List of Professional Core (Theory) Courses for M.Tech. (Production Engineering) AY 2021-22

Sr.No.	Sem	Course Code	Course Name
Professional Core (Theory) Courses			
1	1	5PR501	Manufacturing Processes
2	1	5PR502	Advanced Joining Technology
3	2	5PR521	Advanced Manufacturing Processes
4	2	5PR522	Industrial Automation and Mechatronics
5	3	5PR601	Legal, Financial aspects of Industrial Project



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List of Professional Core (Lab) Courses for M.Tech. (Production Engineering) AY 2021-22

Sr.No.	Sem	Course Code	Course Name
Professional Core (Lab) Courses			
1	1	5PR560	Research Methodology
2	1	5PR551	Activity Based Lab for Th course 1
3	1	5PR552	Activity Based Lab for Th course 2
4	1	5PR553	Presentation and Technical Report Writing
5	1	5PR554	Professional Skills 1
6	2	5PR571	Activity Based Lab for Th course 3
7	2	5PR572	Activity Based Lab for Th course 4
8	2	5PR573	Industrial Project
9	2	5PR574	Professional Skills 2
10	3	5PR690	Dissertation Phase 1
11	3	5PR602	Industry Orientation Course
12	4	5PR691	Dissertation Phase 2
13	4	5PR671	Techno-Socio Activity



Walchand College of Engineering, Sangli

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Open Electives offered by M.Tech. (Production Engineering) to other programmes AY 2021-22

Sr.No.	Offering Dept	Sem	Course Code	Course Name
Open Electives Offered				
1	Mech_Prod	2	5OE103	Advanced Production systems



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Open Electives available from other programmes to M.Tech. (Production Engineering) AY 2021-22

Sr.No.	Offering Dept	Sem	Course Code	Course Name
Open Electives Available				
1	Civil_Env	2	5OE101	Solid Waste Management
2	Civil_Struct	2	5OE102	Structural Health Monitoring
3	Mech_Heat	2	5OE104	Waste to Energy
4	Mech_Design	2	5OE105	Industrial Product Design
5	Elect_Power	2	5OE106	Control Techniques for Electrical Drives
6	Elect_Control	2	5OE106	Control Techniques for Electrical Drives
7	Eln	2	5OE108	Introduction to Embedded Systems
8	CSE	2	5OE109	Machine Learning in Practice
9	IT	2	5OE110	Machine Learning & Applications