

**Course Structure for Two-year Postgraduate Degree Course (M.Tech.) in Production Engineering with specialization in Manufacturing Systems Engineering**

**SEMESTER I**

Sl. No.	Core/ Elective	Subject Code	Subject Name	L	T	P	Credits
1	Core-1	MPEMS101	Manufacturing System Models	4	0	0	3
2	Core-2	MPEMS102	Computer Aided Design & Manufacturing	4	0	0	3
3	PE-1	MMSPE101	Rapid Manufacturing Processes	4	0	0	3
		MMSPE102	Computer Aided Product Design	4	0	0	
		MMSPE103	Manufacturing Information System	4	0	0	
4	PE-2	MMSPE104	Design of Experiments	4	0	0	3
		MMSPE105	Advanced Maintenance Engineering	4	0	0	
		MMSPE106	Ergonomics & Work Design	4	0	0	
5	Common		Research Methodology & IPR	4	0	0	3
6	Lab-1	MPEMS103	Manufacturing Systems Lab-I	0	0	3	2
7	Lab-2	MPEMS104	Manufacturing Systems Lab- II	0	0	3	2
8	Audit-1	MCAC1001	English for Research Paper Writing	0	0	0	0
		MCAC1002	Disaster Management				
		MCAC1004	Value Education				
<b>Total Credits</b>							<b>19</b>

**SEMESTER II**

Sl. No.	Core/ Elective	Subject Code	Subject Name	L	T	P	Credits
1	Core-3	MPEMS201	Robotics & Robots Application	4	0	0	3
2	Core-4	MPEMS202	Modern Machining Processes	4	0	0	3
3	PE-3	MMSPE201	Automation in Manufacturing	4	0	0	3
		MMSPE202	Mechatronics & MEMS	4	0	0	
		MMSPE203	Quality Engineering	4	0	0	
4	PE-4	MMSPE204	Computer Aided Engineering	4	0	0	3
		MMSPE205	Enterprise Resource Planning	4	0	0	
		MMSPE206	Laser Material Processing	4	0	0	
5	Common		Minor Project & Seminar	4	0	0	2
6	Lab-1	MPEMS203	Manufacturing Systems Lab- III	0	0	3	2
7	Lab-2	MPEMS204	Manufacturing Systems Lab- IV	0	0	3	2
8	Audit-2	MCAC2001	Constitution of India	0	0	0	0
		MCAC2002	Pedagogy Studies				
		MCAC2004	Personality Development through Life Enlightenment Skills.				
<b>Total Credits</b>							<b>18</b>

SEMESTER III							
Sl. No.	Core/ Elective	Subject Code	Subject Name	L	T	P	Credits
1	PE-5	MMSPE301	Finite Element Analysis in Manufacturing	4	0	0	3
		MMSPE302	Design of Hydraulic & Pneumatic Systems				
		MMSPE303	Discrete System Simulation				
2	OE-1	MMSOE301	World Class Manufacturing	4	0	0	3
		MMSOE302	Sustainable Manufacturing				
		MMSOE303	Micro & Nano Manufacturing				
3	Minor Project		Dissertation (Phase-I)	0	0	20	10
<b>Total Credits</b>							16

SEMESTER IV							
Sl. No.	Core/ Elective	Subject Code	Subject Name	L	T	P	Credits
3	Major Project		Dissertation (Phase-II)	0	0	32	16
<b>Total Credits</b>							16

<b>SEMESTER I</b>							
<b>Sl.No</b>	<b>Core/ Elective</b>	<b>Subject Code</b>	<b>Subject Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credits</b>
1.	Core-I	MPECC101	Advanced CAD	4	0	0	3
2.	Core-II	MPECC102	Computer Aided Manufacturing	4	0	0	3
3.	PE-I	MCCPE101	Rapid Manufacturing Processes	4	0	0	3
4.		MCCPE102	Precision Engineering				
5.		MCCPE103	Design for Manufacturing and Assembly				

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6.	PE-II	MCCPE104	Finite Element Analysis in Manufacturing	4	0	0	3
7.		MCCPE105	Design Optimization				
8.		MCCPE106	Design of Hydraulic and Pneumatic Systems				
9.	Common		Research Methodology & IPR	4	0	0	3
10.	Lab-I	MPECC103	Computer Aided Design Lab	0	0	3	2
11.	Lab-II	MPECC104	CAM Lab	0	0	3	2
12.	Audit-1						
<b>Total Credits</b>							19

SEMESTER II							
Sl. No	Core/ Elective	Subject Code	Subject Name	L	T	P	Credits
1.	Core-III	MPECC201	Robotics & Robots Application	4	0	0	3
2.	Core-IV	MPECC202	Automation in Manufacturing	4	0	0	3
3.	PE-III	MCCPE201	Computer Integrated Manufacturing	4	0	0	3
4.		MCCPE202	Concurrent Engineering				
5.		MCCPE203	Computer Aided Process Planning				
6.	PE-IV	MCCPE204	Mechanics of Advanced Materials	4	0	0	3
7.		MCCPE205	Simulation and modeling				
8.		MCCPE206	Robotic Material Handling				
9.	Common		Minor Project & Seminar	2	0	3	2
10.	Lab-III	MPECC203	Robotics Lab	0	0	3	2
11.	Lab-IV	MPECC204	Simulation Lab	0	0	3	2
12.	Audit-2						
<b>Total Credits</b>							18

SEMESTER III							
Sl. No	Core/ Elective	Subject Code	Subject Name	L	T	P	Credits
1.	PE-V	MCCPE301	Mechatronics & MEMS	4	0	0	3
2.		MCCPE302	Computer Aided Product Design				
3.		MCCPE303	Artificial intelligence and expert systems				
4.	OE-I	MCCOE301	Quality Engineering	4	0	0	3
5.		MCCOE302	Life Cycle Engineering				
6.		MCCOE303	Advanced Maintenance Technology				
7.	Minor Project		Dissertation (Phase-I)	0	0	20	10
<b>Total Credits</b>							16

SEMESTER IV							
Sl. No	Core/ Elective	Subject Code	Subject Name	L	T	P	Credits
1.	Major Project		Dissertation (Phase-II)	0	0	32	16
<b>Total Credits</b>							16