

# Government College of Engineering, Karad

(an Autonomous Institute of Government of Maharashtra)

## Scheme of Instructions and Syllabus

Scheme of Instructions for First Year M. Tech. course in Production Engineering

Semester – I (w.e.f.: AY 2019-20)


जा.क्र.शा.अमक/ 763  
यंत्र अभियांत्रिकी विभाग  
शासकिय अभियांत्रिकी महाविद्यालय, कराड  
दिनांक- 18-8-2019

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme				
									CT - 1	CT - 2	TA / CA	ESE	TOTAL
1.	PCC	PE1101	Advanced Material & Manufacturing	3	-	-	3	3	15	15	10	60	100
2.	PCC	PE1102	Metal Forming Technology	3	-	-	3	3	15	15	10	60	100
3.	PEC	PE11*3	Program Elective - I	3	-	-	3	3	15	15	10	60	100
4.	PEC	PE11*4	Program Elective - II	3	-	-	3	3	15	15	10	60	100
5.	MDC	RM1105	Research Methodology	2	-	-	2	2	15	15	10	60	100
6.	PCC	PE1106	Lab Practice - I	-	-	4	4	2	-	-	25	25	50
7.	PEC	PE1107	Lab Practice - II	-	-	4	4	2	-	-	25	25	50
8.	OEC	OE11*8	Open Elective	3	-	-	3	3	15	15	10	60	100
9.	MNC	AU11*9	Audit Course - I	2	-	-	2	-	-	-	-	-	-
<b>Total</b>				19	-	8	27	21	90	90	110	410	700

L- Lecture T-Tutorial P-Practical CT1- Class Test 1 CT2- Class Test 2 TA/CA- Teacher Assessment / Continuous Assessment

ESE- End Semester Examination (For Laboratory: End Semester Performance)

\*- Program Elective / Audit Course / Open Elective (list is provided at the end of structure)

  
Professor and Head of the  
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Semester – II (w.e.f.: AY 2019-20)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme				
									CT - 1	CT - 2	TA / CA	ESE	TOTAL
1.	PCC	PE1201	Advanced Casting Technology	3	-	-	3	3	15	15	10	60	100
2.	PCC	PE1202	Production & Operations Management	3	-	-	3	3	15	15	10	60	100
3.	PEC	PE12*3	Program Elective - III	3	-	-	3	3	15	15	10	60	100
4.	PEC	PE12*4	Program Elective – IV	3	-	-	3	3	15	15	10	60	100
5.	PEC	PE12*5	Program Elective - V	3	-	-	3	3	15	15	10	60	100
6.	PCC	PE1206	Lab Practice - III	-	-	4	4	2	-	-	25	25	50
7.	PEC	PE1207	Lab Practice - IV	-	-	4	4	2	-	-	25	25	50
8.	P / S/ IT	PE1208	Seminar on Pre-Dissertation work	-	-	4	4	2	-	-	50	50	100
9.	MNC	AU12*9	Audit Course - II	2	-	-	2	-	-	-	-	-	-
			<b>Total</b>	17	-	12	29	21	90	90	110	410	700

L- Lecture T-Tutorial P-Practical CT1- Class Test 1 CT2- Class Test 2 TA/CA- Teacher Assessment / Continuous Assessment

ESE- End Semester Examination (For Laboratory: End Semester Performance)

\*- Program Elective / Audit Course / Open Elective (list is provided at the end of structure)

\*-Program Elective V - Students are permitted to register online courses available on different online platforms. If student will choose classroom teaching process then only CT-I. CT-II, ESE will be conducted, otherwise grade will be accepted as given by course offering agency.

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Semester – III (w.e.f.: AY 2019-20)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme				
									CT - 1	CT - 2	TA / CA	ESE	TOTAL
1.	P / S / IT	PE1301	Dissertation - I	-	-	14	14	07	-	-	100	100	200
2.	PEC	PE1302 **	MOOC online course (8-12 weeks)	-	-	-	-	03	-	-	-	-	-
<b>Total</b>				-	-	14	14	10	-	-	100	100	200

TA/CA- Teacher Assessment / Continuous Assessment

ESE- End Semester Examination (For Laboratory: End Semester Performance)

\*\* PE1302 is mandatory and will be decided by respective Guide in consultation with Programme Head.

  
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Semester – IV (w.e.f.: AY 2019-20)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme				
									CT - 1	CT - 2	TA / CA	ESE	TOTAL
1.	P / S / IT	PE1401	Dissertation - II	-	-	32	32	16	-	-	100	200	300
			<b>Total</b>	-	-	32	32	16	-	-	100	200	300

TA/CA- Teacher Assessment / Continuous Assessment

ESE- End Semester Examination (For Laboratory: End Semester Performance)

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### List of Program Elective Courses

Semester – I		Semester – II		
Program Elective - I	Program Elective - II	Program Elective - III	Program Elective - IV	Program Elective – V All NPTEL Courses
<b>PE1113:</b> Advanced Machine Tool Design	<b>PE1114:</b> Mathematical Modeling and Simulation	<b>PE1213:</b> Computer Aided Engineering (CAE)	<b>PE1214:</b> Industrial Automation and Robotics	<b>PE1215:</b> Fundamentals of Surface Engineering: Mechanisms, Processes and Characterizations (Online Course)
<b>PE1123:</b> Advanced Tooling and Die Design	<b>PE1124:</b> MEMS & Nanotechnology	<b>PE1223:</b> Noise and Vibration	<b>PE1224:</b> Automatic Control Engineering	<b>PE1225:</b> Mechanics of machining (Online Course)
<b>PE1133:</b> Costing and Cost Control	<b>PE1134:</b> Supply Chain Management & Logistics	<b>PE1233:</b> Fabrication Engineering & Welding Technology	<b>PE1234:</b> Plastic Process & Die Design	<b>PE1235:</b> Processing of polymers and polymer composites (Online Course)
<b>PE1143:</b> Introduction to Mechanical Micro Machining	<b>PE1144:</b> Work System Design	<b>PE1243:</b> Condition Monitoring	<b>PE1244:</b> Product Life Cycle Management	<b>PE1245:</b> Advanced welding and joining technologies (Online Course)
<b>PE1153:</b> Quality Engineering for Manufacturing (Online Course)	<b>PE1154:</b> Precision Engineering and Lean Manufacturing (Online Course)	<b>PE1253:</b> Finite Element Method in Manufacturing (Online Course)	<b>PE1254:</b> Additive Manufacturing (Online Course)	<b>PE1255:</b> Surface engineering and nanomaterials (Online Course)
				<b>PE 1265:</b> Online/MOOC Course.

  
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### List of Open Electives and Audit Courses

Semester - I		Semester – II
Open Electives	Audit Course - I	Audit Course – II
OE1118: Business Analytics	AU1119: Research Paper Writing	AU1219: Constitution of India
OE1128: Industrial Safety	AU1129: Disaster Management	AU1229: Pedagogy Studies
OE1138: Operations Research	AU1139: Sanskrit for Technical Knowledge	AU1239: Stress Management by Yoga
OE1148: Cost Management of Engineering Projects	AU1149: Value Education	AU1249: Personality Development through Life Enlightenment Skills
OE1158: Composite Materials		
OE1168: Waste to Energy		

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