

जा.क्र.शा.अमक/763
यंत्र अभियांत्रिकी विभाग
शासकिय अभियांत्रिकी महाविद्यालय, कराड
दिनांक- 18-8-2021

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 Design Engineering

Semester – I (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	DE1101	Vibrations and Acoustics	3	-	-	3	3	15	15	10	60	100
2.	PCC	DE1102	Stress Analysis	3	-	-	3	3	15	15	10	60	100
3.	PEC	DE11*3	Program Elective - I	3	-	-	3	3	15	15	10	60	100
4.	PEC	DE11*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	DE1106	Lab Practice - I	-	-	4	4	2	-	-	25	25	50
7.	PEC	DE1107	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	-	-	-	-	-	-
Total				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)


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Semester – II (w.e.f.: AY 2019- 2020)


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	DE1201	Finite Element Analysis	3	-	-	3	3	15	15	10	60	100
2.	PCC	DE1202	Computer Aided Design	3	-	-	3	3	15	15	10	60	100
3.	PEC	DE12*3	Program Elective - III	3	-	-	3	3	15	15	10	60	100
4.	PEC	DE12*4	Program Elective – IV	3	-	-	3	3	15	15	10	60	100
5.	PEC	DE12*5	Program Elective - V	3	-	-	3	3	15	15	10	60	100
6.	PCC	DE1206	Lab Practice - III	-	-	4	4	2	-	-	25	25	50
7.	PEC	DE1207	Lab Practice - IV	-	-	4	4	2	-	-	25	25	50
8.	P / S/ IT	DE1208	Seminar on Pre-Dissertation work	-	-	4	4	2	-	-	50	50	100
9.	MNC	AU12*9	Audit Course – II	2	-	-	2	-	-	-	-	-	-
			Total	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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Engineering 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	DE1301	Dissertation - I	-	-	14	14	7	-	-	100	100	200
2.	PEC	DE 1302	Online Course (8-12 Week)	-	-	-	-	3	-	-	-	-	-
			Total	-	-	14	14	10	-	-	100	100	200

TA/CA- Teacher Assessment / Continuous Assessment

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**** DE 1302 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	DE1401	Dissertation - II	-	-	32	32	16	-	-	100	200	300
			Total	-	-	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
DE1113: Advanced Mathematical Methods in Mechanical Design	DE1114: Advanced Machine Design	DE1213: Mechatronics and Control Systems	DE1214: Nonlinear and Random Vibrations	DE1215: Optimization Techniques
DE1123: Experimental Stress Analysis	DE1124: Fatigue, Fracture and Failure Analysis	DE1223: Mechanisms and Robotics	DE1224: Condition Monitoring	DE1225: Materials and Composites
DE1133: Mathematical Methods for Mechanics and Dynamics	DE1134: Tribology	DE1233: Rapid Prototyping & 3D Printing	DE1234: Synthesis of Mechanisms	DE1235: Automotive System Design
DE1143: Reliability Engineering	DE1144: MEMS and Nanotechnology	DE1243: Internet of Things & Machine Learning	DE1244: Vehicle Dynamics	DE1245: Industrial Product Design
				DE1255: 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: Operation 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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