

Walchand College of Engineering, Sangli

(An Autonomous Institute)



Curriculum (Structure)

for

Mechanical Engineering

Academic Year 2016-2017



Walchand College of Engineering, Sangli

(An Autonomous Institute)

Teaching and Evaluation Scheme for Year 2016-17

Second Year U.G. Program in Mechanical Engineering Semester I

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Component	Marks		Min for Passing
							Max		
3MA 201	Engineering Mathematics III	3	1	--	4	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3ME201	Applied Thermodynamics	3	--	--	3	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3ME202	Mechanics of Material	3	1	--	4	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3ME203	Material Science & Metallurgy	3	--	--	3	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3ME204	Manufacturing Processes & Machine Tools	3	--	--	3	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3HS201	Environmental Science	2	1	--	3	ISE 1	10		40
						ISE 2	10		
						MSE	30		
						ESE	50	20	
3ME251	Applied Thermodynamics Lab	--	--	2	1	ISE	50	20	
3ME 252 (3ME253)	Material Science & Metallurgy Lab	--	--	2	1	ESE(P.O.E)	50	20	
3ME 253 (3ME254)	Mechanical Workshop I	--	--	2	1	ISE	50	20	
						ESE(P.O.E)	50	20	
Total		17	3	6	23	Total Contact Hours/Week: 26hrs			

Note: Course code in the bracket indicates pre-revised code



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Teaching and Evaluation Scheme for Year 2016-17

Second Year U.G. Program in Mechanical Engineering Semester II

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Component	Marks		
							Max	Min for Passing	
3ME 221 (3ME211)	Numerical Methods	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME 222 (3ME212)	Machine Drawing & CAD	3	--	-	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME 223 (3ME213)	Theory of Machines I	3	1	--	4	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME 224 (3ME214)	Fluid Mechanics	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME 225 (3ME215)	Fundamentals of Machining & Tool Engineering	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME23#	Professional Elective I	3	1	--	4	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME 271 (3ME261)	Numerical Methods Lab	--	--	2	1	ISE	100		40
3ME 272 (3ME262)	Machine Drawing & CAD Lab	--	--	2	1	ISE	50		20
						ESE(P.O.E)	50		20
3ME 273 (3ME264)	Fluid Mechanics Lab	--	--	2	1	ISE	50		20
						ESE(P.O.E)	50		20
3ME 274 (3ME265)	Mechanical Workshop II	--	--	2	1	ISE	50		20
						ESE(P.O.E)	50		20
Total		18	2	8	24	Total Contact Hours/Week: 28hrs			

Professional Elective I	
Course Code	Course Name
3ME 231 (3ME216)	Steam Power Engineering
3ME 232 (3ME217)	Advanced SOM
3ME 233 (3ME218)	Metal Forming

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Third Year U.G. Program in Mechanical Engineering Semester I

Course Code	Course	Teaching Scheme				Evaluation Scheme		
		L	T	P	Credits	Component	Marks	
							Maximum	Min for Passing
3OE3##	Open Elective I	3	--	--	3	ISE 1 ISE 2 MSE ESE	10 10 30 50	20 40
3ME301	Machine Design I	3	1	--	4	ISE 1 ISE 2 MSE ESE	10 10 30 50	20 40
3ME302	Heat Transfer	3	--	--	3	ISE 1 ISE 2 MSE ESE	10 10 30 50	20 40
3ME303	Theory of Machines II	3	--	--	3	ISE 1 ISE 2 MSE ESE	10 10 30 50	20 40
3ME304	Metrology and Quality Control	3	--	--	3	ISE 1 ISE 2 MSE ESE	10 10 30 50	20 40
3ME3##	Professional Elective II	3	--	--	3	ISE 1 ISE 2 MSE ESE	10 10 30 50	20 40
3ME 351	Heat Transfer Lab	--	--	2	1	ISE ESE(P.O.E.)	50 50	20 20
3ME 352	Theory of Machines II Lab	--	--	2	1	ISE ESE(P.O.E.)	50 50	20 20
3ME 353	Metrology and Quality Control Lab	--	--	2	1	ISE ESE(P.O.E.)	50 50	20 20
3ME3*#	Professional Elective II Lab	--	--	2	1	ISE	100	40
Total		18	1	8	23	Total Contact Hours/Week: 27hrs		

Note: Course code in the bracket indicates pre-revised code

Professional Elective II		Professional Elective II Lab	
Course Code	Course Name	Course Code	Course Name
3ME 311	Fluid & Turbo Machinery	3ME 361	Fluid & Turbo Machinery Lab
3ME 312	Industrial Hydraulics & Pneumatics	3ME 362	Industrial Hydraulics & Pneumatics Lab
3ME 313	Synthesis of Mechanisms	3ME 363	Synthesis of Mechanism Lab

Open Elective I		
Course Code	Course Name	Offered by Department
1OE 315 (3OE 302)	Remote Sensing & GIS, GPS	Civil
1OE 329 (3OE 304)	Manufacturing Engineering	Mechanical
1OE 330 (3OE 305)	Energy Engineering	Mechanical
1OE 331 (3OE 306)	Mechanisms and Machines	Mechanical
1OE 343 (3OE 307)	Electrical Machines	Electrical
1OE 357 (3OE 308)	Electronic Systems	Electronics
1OE 358 (3OE 311)	Fundamental of Analog and Digital Communication	Electronics
1OE 371 (3OE 309)	Software Engg. & Database Essentials	CSE
1OE 385 (3OE 310)	Internet of Things	IT



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Teaching and Evaluation Scheme for Year 2016-17

Third Year U.G. Program in Mechanical Engineering II Semester

						Component	Marks		
		L	T	P	Credits		Max Marks	Min for Passing	
3OE3*#	Open Elective II	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME321	Machine Design II	3	1	--	4	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME322	I.C. Engines	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME323	CAD-CAM	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME3##	Professional Elective III	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME3##	Professional Elective IV	3	1	--	4	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME 371	I.C. Engines Lab	--	--	2	1	ISE	50	20	
						ESE(P.O.E.)	50	20	
3ME 372	CAD-CAM Lab	--	--	2	1	ISE	50	20	
						ESE(P.O.E.)	50	20	
3ME3*#	Professional Elective III Lab	--	--	2	1	ISE	50	20	
						ESE(P.O.E.)	50	20	
3ME 341	Seminar	--	--	2	1	ISE	100		40
Total		18	2	8	24	Total Contact Hours/Week: 28hrs			

Note: Course code in the bracket indicates pre-revised code

Professional Elective III		Professional Elective III Lab	
Course Code	Course Name	Course Code	Course Name
3ME 331	Mechatronics	3ME 381	Mechatronics Lab
3ME 332	Experimental stress Analysis	3ME 382	Experimental stress Analysis Lab
3ME 333	Foundry Technology	3ME 383	Foundry Technology Lab
Professional Elective IV			
Course Code	Course Name		
3ME 334	Operations Research		
3ME 335	Energy and Power Plant Engg		
3ME 336	Quality and Reliability Engg		

Open Elective II		
Course Code	Course Name	Offered by Department
1OE 308 (3OE 321)	Machine Foundations	Civil-APM
1OE 309 (3OE 322)	Theory of Structures	Civil-APM
1OE 336 (3OE 324)	Power Plant Engineering	Mechanical
1OE 337 (3OE 325)	Fabrication Technology	Mechanical
1OE 338 (3OE 326)	Mechanical Power Transmission	Mechanical
1OE 350 (3OE 327)	Renewable Energy	Electrical
1OE 364 (3OE 328)	Embedded Programming	Electronics
1OE 365 (3OE 331)	Signal Processing and Foundation	Electronics
1OE 378 (3OE 329)	Data Analytics	CSE
1OE 392 (3OE 330)	Web Design & Applications	IT

Note: Course code in the bracket indicates pre-revised code



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Teaching and Evaluation Scheme for Year 2016-17

Final Year U.G. Program in Mechanical Engineering I Semester

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Component	Marks		
							Max Marks	Min for Passing	
3OE4*#	Open Elective III	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME401	Industrial Engineering	3	1	--	4	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME402	Refrigeration & Air Conditioning	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME4##	Professional Elective V	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME4##	Professional Elective VI	3	--	--	3	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME4##	Professional Elective VII	3	1	--	4	ISE 1	10	20	40
						ISE 2	10		
						MSE	30		
						ESE	50		
3ME451	Refrigeration & Air Conditioning Lab	--	--	2	1	ISE	50	20	
						ESE(P.O.E.)	50		
3ME4*#	Professional Elective V Lab	--	--	2	1	ISE	50	20	
						ESE(P.O.E.)	50		
3ME4*#	Professional Elective VI Lab	--	--	2	1	ISE	50	20	
						ESE(P.O.E.)	50		
2ME441	Pre Project Work	--	--	2	1	ISE	100		40
Total		18	2	8	24	Total Contact Hours/Week: 30hrs			

Professional Elective V		Professional Elective V Lab	
Course Code	Course Name	Course Code	Course Name
3ME 411	Dynamics of Machines	3ME461	Dynamics of Machines Lab
3ME 412	Cryogenics	3ME462	Cryogenics Lab
3ME 413	Advanced Manufacturing Techniques	3ME463	Advanced Manufacturing Techniques Lab

Professional Elective VI		Professional Elective VI Lab	
Course Code	Course Name	Course Code	Course Name
3ME 414	Finite Element Method	3ME464	Finite Element Method Lab
3ME 415	Computational Fluid Dynamics	3ME465	Computational Fluid Dynamics Lab
3ME 416	Computer Integrated Manufacturing and Robotics	3ME466	Computer Integrated Manufacturing and Robotics Lab

Professional Elective VII	
Course Code	Course Name
3ME417	Mechanical Systems Design
3ME418	Product Life Cycle Management
3ME419	Precision Engineering

Open Elective III		
Course Code	Course Name	Offered by Department
1OE 415 (3OE 341)	Numerical Methods and Optimization Techniques	Civil
1OE 429 (3OE 342)	Automobile Engineering	Mechanical
1OE 430 (3OE 343)	Energy Modeling and Management	Mechanical
1OE 431 (3OE 344)	Aerospace Engineering	Mechanical
1OE 443 (3OE 345)	Industrial Automation	Electrical
1OE 457 (3OE 346)	Cyber Physical Systems	Electronics
1OE 471 (3OE 347)	Business Intelligence	CSE
1OE 485 (3OE 348)	Data Visualization and Interpretation	IT



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Teaching and Evaluation Scheme for Year 2016-17

Final Year U.G. Program in Mechanical Engineering

II Semester

Course Code	Course	Teaching Scheme				Evaluation Scheme		
		L	T	P	Credits	Component	Theory	
							Max Marks	Min for Passing
3IC401	Industrial Management and Economics	4	--	--	4	ISE 1	10	40
						ISE 2	10	
						MSE	30	
						ESE	50	
3ME491	Project	--	--	8	12	ISE	50	20
						ESE(O.E.)	50	20
Total		4	--	8	16	Total Contact Hours/Week: 12hrs		

Note: Course code in the bracket indicates pre-revised code