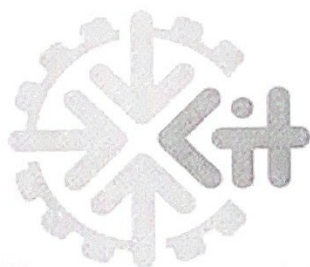


**Kolhapur Institute of Technology's College of
Engineering (Autonomous), Kolhapur**



KOLHAPUR INSTITUTE
OF TECHNOLOGY'S
**COLLEGE OF
ENGINEERING**
(AUTONOMOUS),
KOLHAPUR

Curriculum (Structure)

for

B.TECH

**Mechanical Engineering Programme
(Under Graduate Programme)
With Effect From Academic Year
2022-2023**

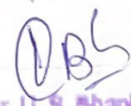


Kolhapur Institute of Technology's College of Engineering (Autonomous), Kolhapur
Teaching and Evaluation scheme for
Second Year B.Tech. Programme in Mechanical Engineering - Semester III
WITH EFFECT FROM AY 2022-23

Course Code	Course Name	Curriculum Component	Teaching Scheme (Hrs/Week)				Evaluation Scheme			
			L	T	P	C	Component	Marks		
								Max	Min For Passing	
UMEC0301	Engineering Mathematics-III	BS	3	1		4	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50		
UMEC0302	Applied Thermodynamics	PC	3			3	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50		
UMEC0303	Object Oriented Programming	PC	3			3	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50		
UMEC0304	Electrical and Electronics Engineering	PC	3			3	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50		
UMEC0305	Machine Tools	PC	3			3	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50		
UMEA0361	Environmental Studies (Audit Course-I)	HS	2			0	ESE	100		40
UMEC0306	Thermal Engineering Lab	PC			2	1	ISE	25		10
UMEC0307	Object Oriented Programming Lab	PC			2	1	ESE(POE)	25		10
UMEC0308	CAD-CAM Lab	PC			2	1	ISE	25		10
UMEC0309	Machine Drawing Lab	PC			2	1	ESE(OE)	25		10
UMEC0310	Sensors and Actuators Lab	PC			2	1	ISE	25		10
UMEC0311	Workshop Practice-II	PC			2	1	ISE	25		10
							ESE(POE)	50		20
Total			17	1	12	22	Total	750		340

TOTAL CONTACT HOURS: 30, TOTAL CREDITS: 22


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Kolhapur Institute of Technology's College of Engineering (Autonomous), Kolhapur
Teaching and Evaluation scheme for
Second Year B.Tech. Programme in Mechanical Engineering - Semester IV
WITH EFFECT FROM AY 2022-23

Course Code	Course Name	Curriculum Component	Teaching Scheme (Hrs/Week)				Evaluation Scheme			
			L	T	P	C	Component	Marks		
								Max	Min For Passing	
UMEC0401	Fluid Mechanics and Hydraulic Machines	PC	3			3	ISE-I	10	20	40
							MSE	30		
							ISE-II	10	20	40
							ESE	50		
							ISE-I	10	20	40
							MSE	30		
							ISE-II	10	20	40
							ESE	50		
							ISE-I	10	20	40
							MSE	30		
							ISE-II	10	20	40
							ESE	50		
							ISE-I	10	20	40
							MSE	30		
							ISE-II	10	20	40
							ESE	50		
							ISE-I	10	20	40
							MSE	30		
							ISE-II	10	20	40
							ESE	50		
UMEA0401	Indian Constitution (Audit Course-II)	HS	2			0	ESE	100		40
UMEC0406	Fluid Mechanics and Hydraulic Machines Lab	PC			2	1	ISE	25		10
UMEC0407	Kinematics of Machines Lab	PC			2	1	ESE(POE)	25		10
UMEC0408	Materials Engineering Lab	PC			2	1	ISE	25		10
UMEC0409	Industrial Fluid Power Lab	PC			2	1	ESE(POE)	25		10
UMEC0410	Workshop Practice-III	PC			2	1	ISE	25		10
UMEC0411	Project Lab-I	PRJ			2	1	ESE(OE)	25		10
					2	1	ISE	50		20
					2	1	ISE	25		10
Total			17	1	12	22	Total	750		340

TOTAL CONTACT HOURS: 30, TOTAL CREDITS: 22

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Kolhapur Institute of Technology's College of Engineering (Autonomous), Kolhapur
Teaching and Evaluation scheme for

Third Year B.Tech. Programme in Mechanical Engineering - Semester V

WITH EFFECT FROM AY 2023-24

Course Code	Course Name	Curriculum Component	Teaching Scheme (Hrs/Week)				Evaluation Scheme		
			L	T	P	C	Component	Max	Min For Passing
UMEC0501	Heat Transfer	PC	3			3	ISE-I	10	40
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEC0502	Metrology and Quality Control	PC	3			3	ISE-I	10	40
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEC0503	Dynamics of Machines	PC	3			3	ISE-I	10	40
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEC0504	Machine Design	PC	3			3	ISE-I	10	40
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEE051*	Program Elective-I	PE	3			3	ISE-I	10	40
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEO05**	Open Elective-I	OE	3			3	ISE-I	10	40
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEA0501	Intellectual Property Rights (Audit Course-III)	HS	2			0	ISE-I	50	20
							ISE-II	50	20
							ISE	25	10
							ESE(POE)	25	10
UMEC0505	Heat Transfer Lab	PC			2	1	ISE	25	10
							ISE	25	10
UMEC0506	Geometrical Dimensions and Tolerancing Lab	PC			2	1	ESE(POE)	25	10
							ISE	25	10
UMEC0507	Dynamics of Machines Lab	PC			2	1	ISE	25	10
							ISE	25	10
UMEC0508	Project Lab-II	PRJ			2	1	Total	750	300
Total			20	0	8	22			
TOTAL CONTACT HOURS: 28, TOTAL CREDITS: 22									

CODE	PROGRAM ELECTIVE-I
UMEE0511	Numerical Methods
UMEE0512	Advanced Energy Technology
UMEE0513	Safety and Maintenance Engineering
UMEE0514	Smart Materials
UMEE0515	Industrial Product Design
UMEE0516	Tribology
UMEE0517	Project Management

CODE	OPEN ELECTIVE-I
UMEO0501	Engineering Economics
UMEO0502	Supply Chain Management
UMEO0503	Enterprise Resource Planning
UMEO0504	Innovative Tools and Methods for Entrepreneurship
UMEO0505	Operations Research

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Kolhapur Institute of Technology's College of Engineering (Autonomous), Kolhapur
Teaching and Evaluation scheme for

Third Year B.Tech. Programme in Mechanical Engineering - Semester VI

WITH EFFECT FROM AY 2023-24

WITH EFFECT FROM AY 2023-24

Course Code	Course Name	Curriculum Component	Teaching Scheme (Hrs/Week)				Evaluation Scheme				
			L	T	P	C	Component	Marks			
								Max	Min For Passing		
UMEC0601	Design of HVAC and Refrigeration Systems	PC	3			3	ISE-I	10	20	40	
							MSE	30			
							ISE-II	10			
							ESE	50			
UMEC0602	Power Plant Engineering	PC	3			3	ISE-I	10	20	40	
							MSE	30			
							ISE-II	10			
							ESE	50			
UMEC0603	Mechatronics System	PC	3			3	ISE-I	10	20	40	
							MSE	30			
							ISE-II	10			
							ESE	50			
UMEC0604	Control Systems	PC	2			2	ISE-I	10	20	40	
							MSE	30			
							ISE-II	10			
							ESE	50			
UMEE062*	Program Elective-II	PC	3			3	ISE-I	10	20	40	
							MSE	30			
							ISE-II	10			
							ESE	50			
UMEO06**	Open Elective-II	OE	3			3	ISE-I	10	20	40	
							MSE	30			
							ISE-II	10			
							ESE	50			
UMEA0601	Digital Marketing (Audit Course-IV)	HS	2			0	ISE-I	50	20		
UMEC0605	HVAC and Refrigeration Lab	PC			2	1	ISE-II	50	20		
UMEC0606	Power Plant Engineering Lab	PC			2	1	ISE	25	10		
UMEC0607	Mechatronics and Industry 4.0 Lab	PC			2	1	ISE	25	10		
UMEC0608	Vibration measurement and Condition Monitoring Lab	PC			2	1	ESE(POE)	25	10		
UMEC0609	Project Lab-III	PRJ			2	1	ISE	25	10		
Total			19	0	10	22	ISE	25	10		
TOTAL CONTACT HOURS: 29, TOTAL CREDITS: 22							Total	750	300		

CODE	PROGRAM ELECTIVE-II
UMEE0621	Mechanical Vibrations
UMEE0622	Advanced Automobile Design
UMEE0623	Computational Fluid Dynamics
UMEE0624	Total Quality Management
UMEE0625	Entrepreneurship Development
UMEE0626	Computer Integrated Manufacturing

CODE	OPEN ELECTIVE-II
UMEO0601	Product Lifecycle Management
UMEO0602	Advanced Energy Technology
UMEO0603	Project Management
UMEO0604	Smart Materials
UMEO0605	Introduction to Robotics

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Kolhapur Institute of Technology's College of Engineering (Autonomous), Kolhapur
Teaching and Evaluation scheme for
Final Year B.Tech. Programme in Mechanical Engineering - Semester VII

WITH EFFECT FROM AY 2024-25

Course Code	Course Name	Curriculum Component	Teaching Scheme (Hrs/Week)				Evaluation Scheme		
			L	T	P	C	Component	Marks	
								Max	Min For Passing
UMEC0701	Finite Element Analysis	PC	3			3	ISE-I	10	20
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEC0702	Manufacturing and Process Engineering	PC	3			3	ISE-I	10	20
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEC0703	Artificial Intelligence and Machine Learning	PC	3			3	ISE-I	10	20
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEC0704	Industrial Automation and Robotics	PC	3			3	ISE-I	10	20
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEE073*	Program Elective-III	PE	3			3	ISE-I	10	20
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEA0701	Finance Management (Audit Course-V)	HS	2			0	ESE	100	40
UMEC0705	Finite Element Analysis Lab	PC			2	1	ISE	25	10
UMEC0706	Digital Manufacturing Lab	PC			2	1	ESE(OE)	25	10
UMEE074*	Program Elective-III Lab	PE			2	1	ISE	25	10
UMEC0707	Project Phase-I	PRJ			4	2	ESE(POE)	25	10
							ISE	25	10
							ESE(POE)	25	10
							ISE-I	50	20
							ISE-II	50	20
Total			17	0	10	20	Total	750	300

TOTAL CONTACT HOURS: 27, TOTAL CREDITS: 20

CODE	PROGRAM ELECTIVE-III
UMEE0731	Electric and Hybrid Vehicles
UMEE0732	Fracture Mechanics
UMEE0733	Metal Forming and Joining Technology
UMEE0734	Advanced Manufacturing Processes

CODE	PROGRAM ELECTIVE-III LAB
UMEE0741	Electric and Hybrid Vehicles Lab
UMEE0742	Fracture Mechanics Lab
UMEE0743	Metal Forming and Joining Technology Lab
UMEE0744	Advanced Manufacturing Processes Lab


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Kolhapur Institute of Technology's College of Engineering (Autonomous), Kolhapur
Teaching and Evaluation scheme for
Final Year B.Tech. Programme in Mechanical Engineering - Semester VIII

WITH EFFECT FROM AY 2024-25

Course Code	Course Name	Curriculum Component	Teaching Scheme (Hrs/Week)				Evaluation Scheme		
			L	T	P	C	Component	Max	Min For Passing
UMEE084*	Program Elective-IV	PE	3			3	ISE-I	10	20
							MSF	30	
							ISE-II	10	
							ESE	50	
UMEE085*	Program Elective-V	PE	3			3	ISE-I	10	20
							MSE	30	
							ISE-II	10	
							ESE	50	
UMEC0801	Project Phase-II	PRJ			8	4	ISE-I	50	20
							ISE-II	50	20
							ESE(OE)	100	40
UMEC0802	Internship	PRJ			4	2	ISE-I	50	20
							ISE-II	50	20
Total			6	0	12	12	Total	500	200

TOTAL CONTACT HOURS: 18 TOTAL CREDITS: 12

CODE	PROGRAM ELECTIVE-IV
UMEE0841	Cryogenics
UMEE0842	Thermal Management and Packaging of Electronics
UMEE0843	Design of Mechanical Systems
UMEE0844	Operations Research
UMEE0845	Industrial Engineering
UMEE0846	Internet of Things
CODE	PROGRAM ELECTIVE-V
UMEE0851	Gas Turbines and Jet Propulsion
UMEE0852	Design of Thermal Systems
UMEE0853	Process Equipment Design
UMEE0854	Supply Chain Management
UMEE0855	Material Handling Systems
UMEE0856	Production Management



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