Bachelor of Technology
MECHANICAL ENGINEERING
Course Structure

[Effective from the Session: 2024-25]

	Semester I				
	S. No.	**Course Code**	**Course Title**	**Credits**	**Course Type**
First Year	**1.**	**EPHY101**	**Engineering Physics**	**3+0**	**CORE**
	2.	**EMAT 101**	**Engineering Mathematics-I**	**3+0**	**CORE**
	3.	**CSE101**	**Programming for Problem Solving**	**3+0**	**CORE**
	4.	**ECE102**	**Basic Electrical Engineering**	**3+0**	**CORE**
	5.	**ME103**	**Fundamental of Mechanical Engineering and Mechatronics**	**3+0**	**CORE**
	6.	**EPHY151**	**Engineering Physics Lab**	**0+1**	**CORE**
	7.	**CSE151**	**Programming for Problem Solving Lab**	**0+1**	**CORE**
	8.	**ECE152**	**Basic Electrical Engineering Lab**	**0+1**	**CORE**
	9.	**ME102**	**Workshop Practices**	**0+2**	**CORE**
	10.		**Induction Program**		**CORE**
	11.		**SEC-x**	**03**	**ELECTIVE**
	12.		**AEC-x**	**02**	**ELECTIVE**
	Total credits			**25**	
	The students have to choose one course from each (Minor Elective, and Minor Co-Curricular)				

	Semester II				
	S. No.	**Course Code**	**Course Title**	**Credits**	**Course Type**
First Year	**1.**	**ECHE101**	**Engineering Chemistry**	**3+0**	**CORE**
	2.	**EMAT102**	**Engineering Mathematics-II**	**3+0**	**CORE**
	3.	**HSM101**	**Professional Communication**	**3+0**	**CORE**
	4.	**ECE101**	**Basic Electronics Engineering**	**3+0**	**CORE**
	5.	**ECHE151**	**Engineering Chemistry Lab**	**0+1**	**CORE**
	6.	**HSM151**	**Professional Communication Lab**	**0+1**	**CORE**
	7.	**ECE151**	**Basic Electronics Engineering Lab**	**0+1**	**CORE**
	8.	**ME101**	**Engineering Graphics & Design**	**0+2**	**CORE**
	9.		SEC-x	**03**	**ELECTIVE**
	10.		**AEC-x**	**02**	**ELECTIVE**
	Total credits			**22**	
	The students have to choose one course from each (Minor Elective, and Minor Co-Curricular)				

	Semester III				
	S. No.	**Course Code**	**Course Title**	**Credits**	**Course Type**
Second Year	**1.**	**ME204**	**Fluid Mechanics**	**4+0**	**CORE**
	2.	**ME254**	**Fluid Mechanics Lab**	**0+1**	**CORE**
	3.	**HSM201**	**Managerial Economics**	**3+0**	**CORE**
	4.	**ME201**	**Manufacturing Science**	**3+0**	**CORE**
	5.	**ME202**	**Material science**	**3+0**	**CORE**
	6.	**ME252**	**Material science Lab**	**0+1**	**CORE**
	7.	**ME203**	**Engineering mechanics**	**3+0**	**CORE**
	8.	**ME253**	**Engineering mechanics Lab**	**0+1**	**CORE**
	9.	**ENV201**	**Environmental and Ecology**	**2+0(NC)**	**CORE**
	10.		**SEC-x**	**03**	**ELECTIVE**
	11.		**AEC-x**	**02**	**ELECTIVE**
	Total credits			**24**	
	The students have to choose one course from each (Minor Elective, and Minor Co-Curricular)				

	Semester IV				
	S. No.	**Course Code**	**Course Title**	**Credits**	**Course Type**
Second Year	**1.**	**ME205**	**Thermodynamics**	**4+0**	**CORE**
	2.	**ME255**	**Thermodynamics Lab**	**0+1**	**CORE**
	3.	**ME206**	**Metal machining and machine tools**	**4+0**	**CORE**
	4.	**ME207**	**Strength of material**	**4+0**	**CORE**
	5.	**ME208**	**Measurement and Metrology**	**3+0**	**CORE**
	6.	**ME258**	**Measurement and Metrology Lab**	**0+1**	**CORE**
	7.	**ME259**	**Machine drawing Lab**	**0+2**	**CORE**
	8.	**EMAT201**	**Engineering Mathematics-III**	**3+0**	**CORE**
	9.		**AEC-x**	**02**	**ELECTIVE**
	Total credits			**24**	
	The students have to choose one course from each (Minor Elective, and Minor Co-Curricular)				

	Semester V				
	S. No.	**Course Code**	**Course Title**	**Credits**	**Course Type**
Third Year	**1.**	**ME301**	**Heat and mass transfer**	**4+0**	**CORE**
	2.	**ME351**	**Heat and mass transfer Lab**	**0+1**	**CORE**
	3.	**ME302**	**Design of machine elements**	**4+0**	**CORE**
	4.	**ME352**	**Design of machine elements Lab**	**0+1**	**CORE**
	5.	**ME303**	**Fluid machinery**	**4+0**	**CORE**
	6.	**ME353**	**Fluid machinery Lab**	**0+1**	**CORE**
	7.	**ME304**	**Kinematics of machine**	**3+0**	**CORE**
	8.	**HSM301**	**Organisational Behaviour**	**3+0**	**CORE**
	9.	**ME305**	**Seminar-I**	**0+2**	**CORE**
	Total credit			**23**	

	Semester VI				
	S.No.	**Course Code**	**Course Title**	**Credits**	**Course Type**
Third Year	**1.**	**ME306**	**Machine Design**	**4+0**	**CORE**
	2.	**ME356**	**Machine Design Lab**	**0+1**	**CORE**
	3.	**ME307**	**Manufacturing Automation**	**4+0**	**CORE**
	4.	**ME357**	**Manufacturing Technology Lab**	**0+1**	**CORE**
	5.	**ME308**	**Robotics and control**	**4+0**	**CORE**
	6.	**ME309**	**Production and Operations Management**	**3+0**	**CORE**
	7.	**MEP310**	**Engineering Project (Literature Review)**	**0+2**	**CORE**
	8.	**ECOE01**	**Introduction to Microcontrollers and Embedded Systems**	**3+0**	**ELECTIVE**
		ITOE01	**Introduction to OOP with C++**		
		CSEOE01	**Web Technology**		
	Total credits			**22**	
	Only one Course is to be selected from the list of Elective Courses				

	Semester VII				
	S. No.	Course Code	Course Title	Credits	Course Type
Fourth Year	1.	MDE403	IC Engine	3+0	ELECTIVE
	2.	MDE404	Computer Aided Design		
	3.	MDE405	Mechatronics (Online mode from SWAYAM)		
	4.	MDE406	Mechanical vibrations (Online mode from SWAYAM)		
	5.	MDE417	Introduction to Composites (Online mode from SWAYAM)		
	6.	MDE407	Power Plant Engineering	3+0	ELECTIVE
	7.	MDE408	Tribology of Manufacturing Process		
	8.	MDE409	Theory of Elasticity		
	9.	MDE410	Refrigeration and air conditioning (Online mode from SWAYAM)		
	10.	MDE411	Fundamentals Of Additive Manufacturing Technologies (Online mode from SWAYAM)		
	11.	MDE418	Metal Additive Manufacturing (Online mode from SWAYAM)		
	12.	ECOE02	Introduction To MEMs	3+0	ELECTIVE
		ITOE02	Introduction to Virtualization and Cloud Computing		
		CSEOE02	Web Application Development using Python		
	13.	MEP401	Minor Project	0+5	CORE
	14.	HSM401	Universal Human Values-II: Understanding Harmony and Ethical Human Conduct	3+0	CORE
	15.	MEI401	Industrial Training Seminar-II	0+2	CORE
	Total credits			19	
	Only one Course is to be selected from the list of Elective Courses				

	Semester VIII				
	S.No.	Course Code	Course Title	Credits	Course Type
Fourth Year	1.	MDE412	Finite element methods	3+0	ELECTIVE
	2.	MDE413	Optimization Techniques		
	3.	MDE414	Agriculture Engineering		
	4.	MDE415	Biomechanics Of Joints and Orthopaedic Implants		
	5.	MDE416	Computational Fluid Dynamics		
	6.	ECOE03	Digital VLSI Design	3+0	ELECTIVE
	7.	ITOE03	Cyber Law and Ethics		
	8.	CSEOE03	Front End Technologies		
	9.	MEP402	Major Project	0+10	CORE
	Total credits			16	
	Only one course to be selected from the list of Elective Courses				

Credit Distribution

Semester	I	II	III	IV	V	VI	VII	VIII	Total
Credit	25	22	24	24	23	22	19	16	175