

COURSE STRUCTURE

MECHANICAL ENGINEERING

B. TECH FOUR YEAR DEGREE COURSE

(Applicable for the batches admitted from 2020-2021)



ACE

Engineering College

Ankushapur(V), Ghatkesar(M), Medchal Malkajgiri (Dist.), Telangana - 501 301.

(An Autonomous Institution, Affiliated to JNTUH ,Hyderabad)



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Ankushapur(V), Ghatkesar(M), Medchal Malkajgiri Dist - 501 301
(Autonomous)

B.TECH. FOUR YEAR DEGREE COURSE MECHANICAL ENGINEERING COURSE STRUCTURE

I Year				I Semester			
S.No.	Course Type	Course Code	Course Title	Periods Per Week			Credits
				L	T	P	
1	BSC	MA101BS	Mathematics – I	3	1	0	4
2	BSC	PH103BS	Engineering Physics	3	1	0	4
3	ESC	CS103ES	Programming for Problem Solving	3	1	0	4
4	ESC	ME104ES	Engineering Graphics	1	0	4	3
5	BSC	PH106BS	Engineering Physics Lab	0	0	3	1.5
6	ESC	CS106ES	Programming for Problem Solving Lab	0	0	3	1.5
7	*MC	MC107ES	Environmental Science	3	0	0	0
8	*MC	MC108	Business English	2	0	0	0
			Induction Programme				
Total				15	3	10	18

I Year				II Semester			
S.No.	Course Type	Course Code	Course Title	Periods Per Week			Credits
				L	T	P	
1	BSC	MA201BS	Mathematics – II	3	1	0	4
2	BSC	CH202BS	Engineering Chemistry	3	1	0	4
3	ESC	ME203ES	Engineering Mechanics	3	1	0	4
4	ESC	ME205ES	Engineering Workshop	1	0	3	2.5
5	HSMC	EN205HS	English	2	0	0	2
6	BSC	CH206BS	Engineering Chemistry Lab	0	0	3	1.5
7	HSMC	EN207HS	English Language and Communication Skills Lab	0	0	2	1
8	*MC	MC209	Python Programming	1	0	2	0
9	*MC	MC210	Aptitude & Reasoning	3	0	0	0
Total				16	3	10	19

Note: *MC = Satisfactory/Unsatisfactory

II Year				I Semester			
S.No.	Course Type	Course Code	Course Title	Periods Per Week			Credits
				L	T	P	
1	BSC	MA301BS	Probability and Statistics & Complex Variables	3	1	0	4
2	PCC	ME302PC	Mechanics of Solids	3	1	0	4
3	PCC	ME303PC	Material Science and Metallurgy	3	0	0	3
4	PCC	ME304PC	Production Technology	3	0	0	3
5	PCC	ME305PC	Thermodynamics	3	1	0	4
6	PCC	ME306PC	Production Technology Lab	0	0	2	1
7	PCC	ME307PC	Machine Drawing Practice	0	0	2	1
8	PCC	ME308PC	Material Science and Mechanics of Solids Lab	0	0	2	1
9	*MC	MC309HS	Constitution of India	3	0	0	0
10	*MC	MC310ME	Auto CAD	0	0	3	0
Total				18	3	9	21

II Year				II Semester			
S.No.	Course Type	Course Code	Course Title	Periods Per Week			Credits
				L	T	P	
1	ESC	EE401ES	Principles of Electrical and Electronics Engineering	3	0	0	3
2	PCC	ME402PC	Kinematics of Machinery	3	1	0	4
3	PCC	ME403PC	Thermal Engineering – I	3	1	0	4
4	PCC	ME404PC	Fluid Mechanics and Hydraulic Machines	3	1	0	4
5	HSMC	SM405MS	Business Economics & Financial Analysis	3	0	0	3
6	PCC	ME406PC	Fluid Mechanics and Hydraulic Machines Lab	0	0	2	1
7	PCC	ME407PC	Thermal Engineering Lab	0	0	2	1
8	ESC	EE409ES	Principles of Electrical and Electronics Engineering Lab	0	0	2	1
9	*MC	MC409HS	Gender Sensitization Lab	0	0	2	0
10	*MC	MC410ME	CREO	0	0	2	0
Total				15	3	10	21

Note: *MC = Satisfactory/Unsatisfactory

III Year				I Semester			
S.No.	Course Type	Course Code	Course Title	Periods Per Week			Credits
				L	T	P	
1	PCC	ME501PC	Dynamics of Machinery	3	1	0	4
2	PCC	ME502PC	Design of Machine Members-I	3	0	0	3
3	PCC	ME503PC	Metrology & Machine Tools	3	0	0	3
4	PCC	ME504PC	Instrumentation and Control Systems	3	0	0	3
5	PCC	ME505PC	Thermal Engineering-II	3	0	0	3
6	PCC	ME506PC	Operations Research	3	0	0	3
7	PCC	ME507PC	Instrumentation and Control Systems Lab	0	0	2	1
8	PCC	ME508PC	Metrology & Machine Tools Lab	0	0	2	1
9	PCC	ME509PC	Kinematics & Dynamics Lab	0	0	2	1
10	*MC	MC509	Intellectual Property Rights	3	0	0	0
11	*MC	MC510ME	Analysis Lab	0	0	3	0
12	*MC	MC511	Cyber Security	3	0	0	0
Total				24	1	9	22

Note: *MC = Satisfactory/Unsatisfactory

III Year				II Semester			
S.No.	Course Type	Course Code	Course Title	Periods Per Week			Credits
				L	T	P	
1	PCC	ME601PC	Design of Machine Members-II	3	0	0	3
2	PCC	ME602PC	Heat Transfer	3	1	0	4
3	PCC	ME603PC	CAD & CAM	3	0	0	3
4	PCC	ME604PC	Finite Element Methods	3	0	0	3
5	PEC		Professional Elective – I	3	0	0	3
6	OEC		Open Elective – I	3	0	0	3
7	PCC	ME605PC	Heat Transfer Lab	0	0	2	1
8	PCC	ME606PC	CAD & CAM Lab	0	0	2	1
9	HSMC	EN608HS	Advanced English Communication Skills lab	0	0	2	1
10	*MC	MC107ES	Environmental Science	3	0	0	0
11	*MC	MC108	Business English	2	0	0	0

12	*MC	MC512	Artificial Intelligence	3	0	0	0
Total				23	1	6	22

Note: *MC = Satisfactory/Unsatisfactory

MC107ES - Environmental Science– Should be Registered

by Lateral Entry Students Only. MC108 – Business English–

Should be Registered by Lateral Entry Students Only.

***Open Elective** – Students should take Open Electives from List of Open Electives Offered by Other Departments/Branches Only.

IV Year				I Semester			
S.No.	Course Type	Course Code	Course Title	Periods Per Week			Credits
				L	T	P	
1	PCC	ME701PC	Refrigeration & Air Conditioning	3	0	0	3
2	PEC		Professional Elective – II	3	0	0	3
3	PEC		Professional Elective – III	3	0	0	3
4	PEC		Professional Elective – IV	3	0	0	3
5	OEC		Open Elective – II	3	0	0	3
6	PROJ	ME703PC	Industrial Oriented Mini Project/ Summer Internship	0	0	0	2*
7	PROJ	ME705PC	Seminar	0	0	2	1
8	PROJ	ME706PC	Project Stage - I	0	0	6	3
Total				15	0	12	21

***MC – Satisfactory/Unsatisfactory**

Note: Industrial Oriented Mini Project/ Summer Internship is to be carried out during the summer vacation between 6th and 7th semesters. Students should submit report of Industrial Oriented Mini Project/ Summer Internship for evaluation.

Note: Students should take Open Electives from the List of Open Electives Offered by Other Departments/Branches Only.

IV Year				II Semester			
S.No.	Course Type	Course Code	Course Title	Periods Per Week			Credits
				L	T	P	
1	PEC		Professional Elective – V	3	0	0	3
2	PEC		Professional Elective - VI	3	0	0	3
3	OEC		Open Elective - III	3	0	0	3
4	PROJ	ME801PC	Project Stage - II	0	0	14	7
Total				9	0	14	16

Professional Elective – I	
ME611PE	Unconventional Machining Processes
ME612PE	Machine Tool Design
ME613PE	Production Planning & Control

Professional Elective – II	
ME711PE	Additive Manufacturing
ME712PE	Automation in Manufacturing
ME713PE	MEMS

Professional Elective – III	
ME721PE	Power Plant Engineering
ME722PE	Automobile Engineering
ME723PE	Renewable Energy Sources

Professional Elective – IV	
ME731PE	Computational Fluid Dynamics
ME732PE	Turbo Machinery
ME733PE	Fluid Power Systems

Professional Elective – V

ME811PE	Industrial Robotics
ME812PE	Mechanical Vibrations
MM813PE	Composite Materials

Professional Elective – VI

ME821PE	Industrial Management
ME822PE	Production and Operations Management
ME823PE	Tribology

Open Elective -I

ME600OE	Quantitative Analysis for Business Decisions
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Open Elective-II

ME700OE	Basic Mechanical Engineering
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Open Elective-III

ME800OE	Non-Conventional Sources of energy
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