



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

DEPARTMENT OF MECHANICAL ENGINEERING

**COURSE STRUCTURE & SYLLABUS M.Tech ME for
THERMAL ENGINEERING PROGRAMME**

(Applicable for batches admitted from 2019-2020)



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I -SEMESTER

S.No	Code	Subject	L	T	P	Credits	
1	TE 101(Core-1)	Advanced Fluid Mechanics	3	0	0	3	
2	TE102(Core-2)	Computational Fluid Dynamics	3	0	0	3	
3	Program Elective – I TE 103	TE 1031	3	0	0	3	
		Advanced I.C engine ,Electric and Hybrid vehicles					
		TE 1032					Gas Dynamics
		TE 1033					Cryogenic Engineering
TE 1034	Advanced Thermodynamics						
4	Program Elective – II TE 104	TE 1041	3	0	0	3	
		Gas Turbines					
		TE 1042					Alternative Fuel Technologies
		TE 1043					Energy Conservation and Management
TE 1044	Theory and Technology of Fuel Cells						
5	TE 105	Computational Fluid Dynamics Lab –I	0	0	3	2	
6	TE 106	Thermal Engineering Lab-I	0	0	3	2	
7	TE 107	Research Methodology And IPR	2	0	0	2	
8	TE 108	Soft Skills	2	0	0	0	
Total						18	

II -SEMESTER

S. No	Code	Subject	L	T	P	Credits	
1	TE 201(Core-1)	Advanced Heat and Mass Transfer	3	0	0	3	
2	TE 202(Core-2)	Thermal Measurements and Process Controls	3	0	0	3	
3	Program Elective– III TE 203	TE 2031	3	0	0	3	
		Equipment Design for Thermal Systems					
		TE 2032					Solar Energy Technologies
		TE 2033					Advanced Power Plant Engineering
TE 2034	Combustion, Emissions and Environment						
4	Program Elective– IV TE 204	TE 2041	3	0	0	3	
		Jet Propulsion and Rocket Engineering					
		TE 2042					Automotive Engineering
		TE 2043					Modeling of I.C engines
TE 2044	Renewable Energy Technologies						
5	TE 205	Computational Fluid Dynamics Lab–II	0	0	3	2	
6	TE 206	Thermal Engineering Lab-II	0	0	3	2	
7	TE 207	Mini Project with Seminar	2	0	0	2	
8	TE 208	Value Education	2	0	0	0	
Total						18	



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III- SEMESTER

S. No		Subject	L	T	P	Credits		
1	Program Elective– V 301	TE 3011	Optimization Techniques and Applications	(OR) MOOCS/ NPTEL certification courses	3	0	0	3
		TE 3012	Design and Analysis of Experiments					
		TE 3013	Convective Heat Transfer					
		TE 3014	Waste to Energy					
		TE 3015	Advanced finite element methods					
2	Open Elective TE 302	Students are advised to opt for an open elective course of their choice being offered by other Departments of the Institute (OR) MOOCS/NPTEL certification courses duly approved by the Department	3	0	0	3		
3	TE 303	Dissertation phase –I	0	0	20	10		
Total							16	

IV -SEMESTER

S. No	Subject	L	T	P	Credits
1	Dissertation phase –II	0	0	32	16