

Amrutvahini Sheti and Shikshan Vikas Sanstha's

AMRUTVAHINI COLLEGE OF ENGINEERING, SANGAMNER

(An Autonomous Institute Approved by AICTE and Affiliated to SPPU, Pune)

Amrutnagar, Ghulewadi, Sangamner – 422608



Curriculum Structure Of

M. Tech. Mechanical Engineering-Design Engineering

w.e.f.

F.Y. M.Tech: 2025 – 2026



Chairman
BoS, Mechanical Engineering
Amrutvahini College of Engineering, Amrutnagar
Sangamner-422608



Chairman
Academic Council
Amrutvahini College of Engineering, Amrutnagar
Sangamner-422608



Curriculum Structure

First Year M. Tech (Design Engineering) (Semester I)

Course Code	Course Type	Course Name	Teaching Scheme (Hrs./week)			Examination Scheme and Marks					Credits			
			Theory	Tutorial	Practical	CCE*	End-Sem	Term work	Practical	Oral	Theory	Tutorial	Practical	Total
Semester I														
R25-MDE-AME-501	Program Core Course	Applied Mathematics for Engineers	4	-	-	50	50	-	-	-	4	-	-	4
R25-MDE-ASA-502	Program Core Course	Advanced Stress Analysis	4	-	-	50	50	-	-	-	4	-	-	4
R25-MDE-AMV-503	Program Core Course	Advanced Mechanical Vibrations	4	-		50	50	-	-	-	4	-		4
R25-MDE-OT-504	Program Core Course	Optimization Techniques	4	-		50	50	-	-	-	4	-		4
R25-MDE-DELI-505	Program Core Course	Design Engineering Laboratory-I	-	-	4	-	-	25	-	25	-	-	2	2
R25-MDE-MEC-506(A)	Program Elective Course (Elective –I)	Elective-I A. Engineering Fatigue and Fracture Mechanics	3	-	-	50	50	-	-	-	3	-	-	3
R25-MDE-MEC-506(B)		B. Reliability Engineering												
R25-MDE-MEC-506(C)		C. Acoustics and Noise Control												
R25-MDE-MEC-507	Program Elective Course (Elective –I)	Elective 1- Fieldwork Assignments	-	-	2	-	-	25	-	25			1	1
R25-MDE-CTS-508	CivicTech Skill Course	Human Rights I	-	-	-	-	-	-	-	-	-	-	-	1
Total			19	-	6	250	250	50	-	50	19	-	3	23

CCE*: Comprehensive Continuous Evaluation

Approved by

2


 Chairman
 BoS, Mechanical Engineering
 Amrutvahini College of Engineering, Amrutnagar
 Sangamner-422608


 Chairman
 Academic Council
 Amrutvahini College of Engineering, Amrutnagar
 Sangamner-422608

**First Year M. Tech (Design Engineering) (Semester II)**

Course Code	Course Type	Course Name	Teaching Scheme (Hrs./week)			Examination Scheme and Marks					Credits			
			Theory	Tutorial	Practical	CCE*	End-Sem	Term work	Practical	Oral	Theory	Tutorial	Practical	Total
Semester II														
R25-MDE-ASM-509	Program Core Course	Analysis and Synthesis of Mechanisms	4	-	-	50	50	-	-	-	4		-	4
R25-MDE-FEM-510	Program Core Course	Finite Element Method	4	-	-	50	50	-	-	-	4		-	4
R25-MDE-MMC-511	Program Core Course	Mechanical Measurements and Controls	4	-	-	50	50	-	-	-	4	-	-	4
R25-MCO-DELI-512	Program Core Course	Design Engg. Laboratory-II	-	-	4	-	-	25	-	25	-	-	2	2
R25-MDE-MEC-513(A)	Program Elective Course (Elective –II)	Elective-II A. Vehicle dynamics	3	-	-	50	50	-	-	-	3	-	-	3
R25-MDE-MEC-513(B)		B. Material Handling Equipment Design												
R25-MDE-MEC-513(C)		C. Computer-Aided Engineering												
R25-MDE-MEC-514(A)	Program Elective Course (Elective –III)	Elective-III A. Tribology in Design	3	-	-	50	50	-	-	-	3	-	-	3
R25-MDE-MEC-514(B)		B. Process Equipment and Piping System Design												
R25-MDE-MEC-514(C)		C. Material Science and Mechanical Behavior of Materials												
R25-MDE-SEMI-515	Program Core Course	Seminar I	-	-	4	-	-	25	-	25	-	-	2	2
R25-MDE-CTS-516	CivicTech Skill Course	Human Rights II	-	-	-	-	-	-	-	-	-	-	-	1
Total			18		8	250	250	50	-	50	18	-	4	23

CCE*: Comprehensive Continuous Evaluation

Approved by

3


 Chairman
 B.O.S, Mechanical Engineering
 Amrutvahini College of Engineering, Amrutnagar
 Sangamner-422608


 Chairman
 Academic Council
 Amrutvahini College of Engineering, Amrutnagar
 Sangamner-422608