

माधव प्रौद्योगिकी एवं विज्ञान संस्थान, ग्वालियर (म.प्र.), भारत
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.), INDIA

Deemed University

(Declared under Distinct Category by Ministry of Education, Government of India)

NAAC ACCREDITED WITH A++ GRADE



DEPARTMENT OF CHEMICAL ENGINEERING

COURSE STRUCTURE

(Tentative)

I SEMESTER	II SEMESTER	III SEMESTER	IV SEMESTER	V SEMESTER	VI SEMESTER	VII SEMESTER	VIII SEMESTER
Chemical Process Calculations	Organic Process Technology	Complex Analysis & Integral Transforms	Process Instrumentation	Process Engineering & Costing	Equilibrium Staged Operations	Departmental Elective (DE-3)	Departmental Elective* (DE-5)
Computer Programming	Chemical Engineering Thermodynamics	Data Structures	Mass Transfer Operations - II	Process Equipment Design	Transport Phenomena	Departmental Elective* (DE-4)	Open Category Course* (OC-3)
Fluid Mechanics	Heat Transfer Operations	Chemical Reaction Engineering – I	Process Dynamics & Control	Data Science	Artificial Intelligence & Machine Learning	Open Category Course (OC-2)	Industry Internship/ Research Internship/ Innovation & Start-up
Mechanical Operations	Mass Transfer Operations – I	Mechanical Design of Process Equipment	Chemical Reaction Engineering – II	Process Modeling & Simulation	Departmental Elective* (DE-2)	Skill Enhancement Program/Research Internship/ On Job Training	Professional Development
Basic Electrical & Electronics Engineering	Matrices, Differential Equations & Vector Calculus	Inorganic Process Technology	Computational Methods in Chemical Engineering	Departmental Elective* (DE-1)	Open Category Course (OC-1)	Creative Problem Solving	Honours or Minor Degree (Optional)
Computer Programming Lab	Fluid Flow & Mechanical Operations Lab	Heat Transfer Operations Lab	Mass Transfer Operations Lab	Data Science Lab	Artificial Intelligence & Machine Learning Lab	Honours or Minor Degree (Optional)	
Electrical & Electronics Engineering Lab	Problem Solving Through Python Programming	Chemical Synthesis Lab	Process Control Lab	Professional Skills & Competencies – I	Computer Aided Process Calculations Lab		
Novel Engaging Course	Engineering Physics Lab	Novel Engaging Course	Process Computation Lab	Cornerstone Project	Professional Skills & Competencies – II		
Engineering Chemistry Lab	Language Lab	Macro Project-I	Novel Engaging Course	Supply Chain Management	Capstone Project		
Micro Project-I	Novel Engaging Course	Cyber Security	Macro Project-II	Honours or Minor Degree (Optional)	Disaster Management		
Universal Human Values & Professional Ethics (UHVPE)	Micro Project-II	Skill Internship Program-II	Project Management, Economics & Financing	Honours or Minor Degree (Optional)			
Skill Internship Program-I	Sustainability & Environmental Science		Honours or Minor Degree (Optional)				

	Departmental Core Courses
	Basic Science Courses
	Engineering Science Courses
	Mandatory Audit Courses

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Note: Mandatory Workshops in each semester at Department Level (Duration: Two Days)

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<i>Departmental Elective Courses</i>
<i>Multiphase Flow</i>
<i>Membrane Technology</i>
<i>Physical & Electrochemical Characterizations in Chemical Engineering</i>
<i>Chemical Process Safety</i>
<i>Sustainable Energy Technology</i>
<i>Fluidization Engineering</i>
<i>Petroleum Reservoir Engineering</i>
<i>Petroleum Technology</i>
<i>Chemical Process Intensification</i>
<i>Chemical Process Utilities</i>
<i>Biomass Conversion & Biorefinery</i>
<i>Open Category Courses</i>
<i>Fuels & Combustion</i>
<i>Industrial Safety & Hazards</i>
<i>Electrochemical Technology in Pollution Control</i>
<i>Environmental Quality Monitoring & Analysis</i>