

Maulana Azad National Institute of Technology, Bhopal-462003

Energy Centre

Part Time M. Tech. (Renewable Energy)

Scheme of Study (w.e.f - July 2025)

First Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
EN RE 1101	Renewable Energy Systems	3	-	-	3
EN RE 1102	Energy Audit & Conservation	3	-	-	3
	Department Elective-I	3	-	-	3
EN RE 1104	Renewable Energy Lab-I	-	-	2	1
Total Hours:11 Total Credits:10		Total Semester Credits			10

Second Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
EN RE 1201	Wind Energy Systems	3	-	-	3
EN RE 1202	Solar Energy Systems	3	-	-	3
EN RE 1105	Energy Audit Lab	-	-	2	1
HS 1101	Communication Skills	-	-	-	-
EN RE 1106	Seminar I	-	-	2	1
Total Hours:10 Total Credits:18		Total Semester Credits			8

Third Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
EN RE 1103	Energy Storage Technologies	3	-	-	3
	Department Elective II	3	-	-	3
EN RE 1205	Seminar-II	-	-	2	1
EN RE 1203	Renewable Energy Laboratory-II	-	-	2	1
EN RE 1107	Minor Project- I (Self Learning)	-	-	-	2
TotalHours:10 TotalCredits:28		Total Semester Credits			10

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Fourth Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
	Department Elective III	3	-	-	3
	Department Elective IV	3	-	-	3
	Open Elective	3	-	-	3
EN RE 1204	Energy Modelling and Simulation Lab.	-	-	2	1
EN RE 1206	Minor Project II (Self Learning)	-	-	-	2
Total Hours:11 TotalCredits:40		Total Semester Credits			12

Fifth Semester:

Subject Code	Subject	Periods per week			Total Credits
		L	T	P	
EN RE 2101	Dissertation Phase-I	-	-	40	20
Total Hours:40 TotalCredits:60		Total Semester Credits			20

Sixth Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
EN RE 2201	Dissertation Phase-II	-	-	40	20
Total Hours:40 Total Credits:80		Total Semester Credits			20
Total Credits I, II, III, IV, V, VI Semester					80

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Department Electives

Department Electives – 1		Open Elective	
EN RE 1151	Economics and Planning of Energy		Introduction to Urban Planning
EN RE 1152	Power Plant Engineering		Bioprocess Engineering
EN EM 1153	Energy Efficiency in Electrical Utilities		Biophysics Tools and Techniques
EN EM 1154	Alternative Fuels		Analytical Techniques
EN RE 1155	Operation Research and Optimization		Green Technology & Processes
			Solid Waste Management
			Basic Concept of GIS
Department Electives –2			
EN RE 1161	Hydrogen and fuel cells		Road Safety
EN RE 1162	Small Hydro Power		Machine Learning
EN RE 1163	Power Controllers for Energy Systems		Advanced Data Structures and Algorithms
EN RE 1164	Biomass and Waste Management		Nanotechnology and Nanoscience
EN EM 2151	Climate Change and Carbon Sequestration		Electric Machines & Applications
			Control and Instrumentation
			Introduction to Fuzzy Logic
Department Electives – 3			
EN EM 1251	Energy Efficiency in Thermal Utilities		Neural Networks and its Applications
EN RE 1252	Energy from waste		Intellectual Property Rights for Engineers
EN RE 1253	Green Buildings		Applied Psychology: Human Centered Design and Engineering
EN RE 1254	Ocean and Geothermal Energy		Advanced Operations Research
EN EM 1255	Research Methodology		Computing Technologies
			Value Engineering
			Design Thinking
Department Electives – 4			
EN RE 1261	Smart and Micro Grid		Mechatronics and NDT in Engineering
EN RE 1262	Integrated Energy Systems		Advanced Instrumentation Methods for Material Analysis
EN RE 1263	Electric Vehicles		Smart Materials and their Application
EN RE 1264	Energy policies		Engineering Startup Management
EN RE 1265	Pollution Control Technologies		