

Maulana Azad National Institute of Technology, Bhopal – 462003
Energy Centre

M. Tech in Renewable Energy

SCHEME OF STUDY (wef July 2021)

First Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
MTH 511	Advanced Mathematics	3	-	-	3
RE 511	Renewable Energy Systems	3	-	-	3
RE 512	Energy Audit and Conservation	3	-	-	3
RE 513	Energy Storage Technologies	3	-	-	3
HUM 511	Communication Skills	2	-	-	2
	Elective -1 (A)	3	-	-	3
	Elective -2 (B)	3	-	-	3
RE 514	Energy Lab-1	-	-	2	1
RE 515	Seminar-1	-	-	2	1
Total Hours: 24 Total Credits: 22		Total Semester Credits			22

Second Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
RE 521	Wind Energy Systems	3	-	-	3
RE 522	Solar Energy Systems	3	-	-	3
RE 523	Biomass Conversion Technologies	3	-	-	3
	Elective -3 (A)	3	-	-	3
	Elective -4 (A)	3	-	-	3
	Elective -5 (C)	3	-	-	3
EC 524	Research Methodology	1	1	-	2
RE 525	Energy Lab-2	-	-	2	1
RE 526	Seminar-2	-	-	2	1
Total Hours: 24 Total Credits: 44		Total Semester Credits			22

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Third Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
RE 611	Dissertation Phase - I	-	-	32	16
Total Hours: 32 Total Credits: 60		Total Semester Credits			16

Fourth Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
RE 621	Dissertation Phase - II	-	-	40	20
Total Hours: 40 Total Credits: 80		Total Semester Credits			20

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List of Program Electives A		List of Open Electives C	
RE551	Economics and Planning of Energy	ARP - 581	Introduction to Urban Planning
RE552	Energy Efficient Electrical Utilities	BSE – 581	Bioprocess Engineering
RE553	Unconventional Fuel Sources	BSE – 582	Biophysics Tools and Techniques
RE554	Integrated Energy Systems	CHE – 581	Analytical Techniques
RE555	Energy Policy	CHE – 582	Green Technology & Processes
RE556	Small Hydro Power	CE – 581	Solid Waste Management
RE557	Power Controllers	CE – 582	Basic Concept of GIS
RE558	Green Buildings	CE – 583	Road Safety
RE559	Modeling and Simulation	CSE – 581	Machine Learning
RE560	Climate Change and Carbon Sequestration	CSE – 582	Advanced Data Structures and Algorithms
RE561	Pollution Control Technologies	PHY – 581	Nanotechnology and Nanoscience
RE562	Energy from waste	EE – 581	Electric Machines & Applications
		EE – 582	Control and Instrumentation
		ECE – 581	Introduction to Fuzzy Logic
		ECE – 582	Neural Networks and its Applications
		HUM – 582	Applied Psychology: Human Centered Design and Engineering
		MTH – 581	Advanced Operations Research
		MTH – 582	Computing Technologies
List of Departmental Electives B			
ES 512	Operation Research and Management	ME – 581	Value Engineering
ES 553	Intellectual Property Rights	ME – 582	Design Thinking
ES 555	Ocean and Geothermal System	ME - 583	Mechatronics and NDT in Engineering
ES 556	Power Plant Engineering	MME – 581	Advanced Instrumentation Methods for Material Analysis
ES 562	Smart and Micro Grid	MME – 582	Smart Materials and their Application
		MBA-581	Engineering Startup Management