

# ***M.Tech (Renewable Energy Engineering and Management)***

## Programme outline

Year	Courses	Credits	Duration*
<b>First year</b>			
1st semester	9 core courses	22	15 weeks
2nd semester	8 core courses and 2 Electives	22	15 weeks
Summer	Minor Project	2	6 weeks
<b>Second year</b>			
3rd semester	2 core courses and 3 elective courses	15	15 weeks
4th semester	Major Project	16	15 weeks

\* Does not include mid and end-semester breaks and evaluation schedules (based on major and minor tests and assignments)

## Course details

<b>Semester 1</b>					
Course No.	Course title	Type	Number of credits	No. of lectures-tutorial-practical	Course coordinator
ENR 122	<a href="#">Renewable energy resource characteristics</a>	Core	4	56-0-0	Dr Priyanka Kaushal
ENR 135	<a href="#">Power system engineering</a>	Core	3	35-7-0	Dr Naqui Anwer
ENR 185	<a href="#">Introduction to management techniques - I</a>	Core	1	14-0-0	Dr Ritika Mahajan
ENR 119	<a href="#">Fundamentals of thermal and electrical engineering</a>	Core	2	28-0-0	Dr Naqui Anwer
ENR 189	<a href="#">Heat transfer</a>	Core	4	46-10-0	Dr Som Mondal

ENR 112	<a href="#">Conventional energy and environmental implications</a>	Core	2	28-0-0	Dr Priyanka Kaushal
ENR 111	<a href="#">Energy conservation and management</a>	Core	2	20-6-4	Mr Sapan Thapar
ENR 101	<a href="#">Energy lab - I (Power system lab and heat transfer lab)</a>	Core	2	0-0-56	Dr Naqui Anwer

## Semester 2

Course No.	Course title	Type	Number of credits	No. of lectures-tutorial-practical	Course coordinator
ENR 156	Renewable energy project and management	Core	3	34-8-0	
ENR 154	Renewable energy policy and regulations	Core	3	16-20-12	
ENR 153	Biomass and other renewable technologies	Core	3	42-0-0	
ENR 152	Wind, small hydro and RE hybrid systems	Core	2	22-6-0	
ENR 151	Solar technologies	Core	4	51-2-6	
ENR 157	Energy lab - II	Core	3	11-0-62	
ENR 103	Field visits / exposure to RE plants	Core	1	2-2-20	
ENR 155	Optimization techniques for energy management and planning	Core	3	32-10-0	
ENR 159	Applied numerical methods	Elective	3	22-10-20	
ENR 158	Fluid mechanics and wind turbine models	Elective	3	28-14-0	

## Semester 3

Course No.	Course title	Type	Number of credits	No. of lectures-	Course coordinator
------------	--------------	------	-------------------	------------------	--------------------

				<b>tutorial- practical</b>	
NRG 103	<a href="#">Project management</a>	Core	3	28-14-0	Dr Subodh Jain
ENR 106	Summer internship	Core	4	0-0-224	Mr Sapan Thapar
ENR 138	<a href="#">Energy policy and regulations</a>	Core	3	14-10-36	Dr Jami Hossain
ENR 165	<a href="#">Energy economics</a>	Core	3	31-11-0	Dr Atul Kumar
ENR 183	<a href="#">Introduction to Management II</a>	Core	2	28-0-0	Prof Manipadma Datta
NRE 101	<a href="#">Technical Writing (Communication skills and technical writing)</a>	Core	2		Mr Yatendra Joshi
ENR 115	<a href="#">Building energy and green building</a>	Elective	3	14-16-24	Mr Pradeep Kumar
ENR 163	<a href="#">Biofuels and Decentralized Energy Systems</a>	Elective	3	24-18-0	Dr Priyanka Kaushal
ENR 113	<a href="#">Wind power generation</a>	Elective	3	13-17-24	Dr Jami Hossain
ENR 128	<a href="#">Smart grids</a>	Elective	3	42-0-0	Mr Sushant Chopra
ENR 136	<a href="#">Solar thermal and solar photovoltaic power generation</a>	Elective	3	33-0-18	Dr Som Mondal
ENR 141	<a href="#">Waste utilisation</a>	Elective	3	24-18-0	Dr Lakshmi Raghupathy
ENR 121	<a href="#">Issues in grid integration of power from renewable energy sources</a>	Elective	3	14-14-28	Dr Naqui Anwer
ENR 134	<a href="#">Advanced technologies for environmental protection and climate change</a>	Elective	3	26-16-0	Prof O P Rao

<b>Course No.</b>	<b>Course title</b>	<b>Type</b>	<b>Number of credits</b>	<b>No. of lectures-tutorial-practical</b>	<b>Course coordinator</b>
ENR 104	<a href="#">Major project</a>	Core	18		