

## M. Tech Programme in Energy and Environment Management

Interdisciplinary Programme

Programme Code: JEN

The overall credits structure:

Category	PC	PE	OE	Total
Credits	45	9	06	60

### Programme Core (PC)

ESP700	Energy Laboratory	0-0-6	3
ESL-711	Fuel Technology	3-0-0	3
ESL-720	Energy Conservation	3-0-0	3
ESL740	Non-conventional Sources of Energy	3-0-0	3
ESL774	Quantitative Methods for Energy Management & Planning	3-0-0	3
ESL777	Environmental Science & Engineering	3-0-0	3
JND801	Major Project Part – 1 (JEN)	0-0-12	6
JND802	Major Project Part – 2 (JEN)	0-0-24	12
Module	A/ B/ C/ D, each having 3 courses of 3 credits each Compulsory bridge audit courses(credits not counted)	9-0-0	9
ESN704	Basic Thermal Engineering #	1-0-0	0
ESN712	Basic Electrical Engineering*	1-0-0	0
ESN725	Energy Auditing	1-0-0	0
ESN791	Applied Mathematics & Computational Methods	1-0-0	0
ESN794	Principles of Chemical Processes and Combustion +	1-0-0	0
<b>Total PC</b>		<b>24-0-42</b>	<b>45</b>

# For Non-Mechanical Engineering

\* For Non-Electrical Engineering

+ For Non-Chemical /Environmental engineering students

**Module-wise courses (included in PC): A student must take all courses from one of the four modules:**

Module – A			
ESL776	Industrial Energy and Environmental Analysis	3-0-0	3
ESL778	Industrial Waste Management and Recycling	3-0-0	3
ESL784	Cogeneration and Energy Efficiency	3-0-0	3
Module – B			
ESL756	Energy Policy & Planning	3-0-0	3
ESL764	Environmental Economics	3-0-0	3
ESL766	Environmental Regulation	3-0-0	3
Module – C			
ESL718	Power Generation, Transmission and Distribution	3-0-0	3
ESL804	Pollution Control in Power Plants	3-0-0	3
ESL860	Electrical Power System Analysis	3-0-0	3
Module – D			
ESL736	Power from Renewables and Environmental Impacts	3-0-0	3
ESL742	Economics and Financing of Renewable Energy Systems	3-0-0	3
ESL788	Industrial and Commercial Applications of Renewable Energy Sources	3-0-0	3

**Programme Electives (PE) and Open Electives (OE):**

ESL710	Energy, Ecology & Environment	3-0-0	3
ESL722	Integrated Energy Systems	3-0-0	3
ESL730	Direct Energy Conversion	3-0-0	3
ESL734	Nuclear Energy	3-0-0	3
ESL735	Hazardous Waste Management	3-0-0	3
ESL737	Plasmas for Materials Processing	3-0-0	3
ESL738	Power Systems Planning & Operation	3-0-0	3
ESL745	Environmental Audit and Impact Assessment	3-0-0	3
ESL746	Hydrogen Energy	3-0-0	3
ESL755	Solar Photovoltaic Devices and Systems	3-0-0	3
ESL768	Wind Energy and Hydro Power Systems	3-0-0	3
ESL771	Instrumentation and Control in Energy Systems	3-0-0	3
ESL785	Energy Analysis	3-0-0	3
ESL792	Advanced Energy Systems	3-0-0	3
ESL795	Project Evaluation and Management	3-0-0	3
ESL796	Operation and control of Electrical Energy System	3-0-0	3
ESL870	Fusion Energy	3-0-0	3
ESL875	Alternative Fuels for Transportation	3-0-0	3
JNS800	Independent Study (JEN)	0-3-0	3