

SCHOOL OF ENERGY AND ENVIRONMENTAL STUDIES

M. Tech. in Energy Management

PROGRAM CODE: EN7A

BATCH: 2020-22

PROGRAM TITLE: MASTER OF TECHNOLOGY (M.Tech.)
– ENERGY MANAGEMENT

The school has started its M. Tech. programme in Energy Management in the year 1990. The programme has been duly approved by the AICTE, New Delhi.

Objectives:

Energy management is an interdisciplinary field of engineering that focuses on the following objectives:

- To provide trained manpower with strong engineering and R & D capabilities in the energy and environment related areas
- To provide Auditors/ Managers/Consultants for Energy and Environment.
- To develop and promote technologies which are closer to natural processes.
- To provide testing, calibration and third party certification facilities to industries and other organizations in the field of Energy and Environment.
- To train manpower for developing projects specifically related to Clean Development Mechanism (CDM).
- To undertake R & D and consultancy work in the energy and environment related fields.
- To introduce to the industry various environment friendly energy efficient technologies and provide help in implementing energy conservation measures.

Eligibility:

At least 55% aggregate marks in B.E. /B.Tech. in any branch of Engineering or Masters Degree in Physics. Relaxations for SC/ ST candidates in eligibility are as per M.P. Government Rules.

For sponsored candidates minimum two years working experience after qualifying degree is required. The sponsored candidates have to submit a certificate from the employer on the prescribed Performa.

AGE LIMIT: As per the directives of Government of Madhya Pradesh, there is no upper age limit for admission in the programme.

Admission Procedure:

GATE qualified candidates will be preferred for admission. Admissions will be given as per GATE score. However, if seats are vacant due to non-availability of the GATE qualified candidates, then NON-GATE candidates will be admitted as per the merit developed on the basis of % of marks obtained in the qualifying examination.

The sponsored candidates will be admitted as per the merit developed on the basis of % of marks obtained in the following categories:

Category	Qualifying examination	Written Test	Interview	Service Experience*	Total
Max. Marks	100	50	30	20	200

* Service experience - 2 marks per year limited to max. 20 marks.

Seats:

Unreserved-10; SC-1; ST-2; Sponsored-5 (Total seats: 18).

The details of unreserved seats are as follows:

BE/B Tech (Electrical/Electronic Engineering):	03
BE/B Tech (Mechanical Engineering):	03
BE/B Tech (Chemical & other branches of Engineering):	03
M.Sc. in Physics:	01

Duration: Four Semesters (Two Years).

Scholarships:

Scholarship is provided directly to the GATE qualified candidates by AICTE through DBT (Direct Benefit Transfer). Candidates must note that the University/School does not take any responsibility in this regard.

Fee Structure- Batch (2020-22):

Semester	Academic Fee	Development & Maintenance Fee	Students' Services Fee		Examination Fee	Total (Rs.)	
			Boys	Girls		Boys	Girls
First	13000	4500	3300	3111	2500	23300	23111
Second	13000	4500	2911	2722	2500	22911	22722
Third	13000	4500	3300	3111	2500	23300	23111
Fourth	13000	4500	2911	2722	2500	22911	22722

- Caution money (Refundable) of Rs. 4000/- will be charged additionally in the first semester.
- Alumni Fee of Rs. 500/- will be charged extra in the first semester.
- Rs. 5000/- per semester will be charged additional from sponsored candidates as Development and Maintenance Fee.
- If a student repeats a paper(s) in a semester, an additional fee of Rs.500/- per paper shall be payable.
- For NRI/ FN/ PIO Candidates, a fee of US\$ 3500 Per Annum shall be payable on yearly basis. They will have to pay a refundable deposit of US\$ 500 once at the time of admission.
- Hostel Fee and Central Library Fee will be extra.

Learning Outcomes and Job Opportunities:

Fundamental knowledge in

Non- renewable Energy, Renewable Energy (Solar, wind, hydro, geothermal, biomass), Energy Conservation measures, Energy Auditing, Energy & Environment Management.

Advanced Knowledge in

Solar Energy, Bio-energy, Green building and Water & Waste Water Management.

Ability for Employment As

Energy Auditor, Energy manager, International & multinational industry & organization, Energy studies & Energy Conservation, Consultancy in the field of systems& technology such as Solar City, Biogas, gasifier, Solid waste management, Entrepreneurship in Renewable Energy design, fabrication, retrofitting, testing, Higher education as teacher, scientist and research & development, Government jobs est.

Ability for higher education and research in the areas of

Solar Energy, Green building, Thermal modelling, Thermal conversion of biomass, biological conversion of biomass, Bio-fuel, Solid waste management, Waste Water management.

Curriculum:

M.TECH. (ENERGY MANAGEMENT) 2019-2021

Eligibility Graduate Degree in Engineering or M Sc. Physics with minimum of 55% marks

Duration 4 Semesters

Seats 18

COURSE	COURSE TITLE	Crs.	Hrs	SEM	Faculty
Core Theory Course		L+T+P			
EN-701	Solar Energy: Fundamentals, Devices and Systems	2+1+0	48	I	SPS
EN-702	New & Renewable Energy, Sources and Technologies	2+1+0	48	I	RNS
EN-703	Engineering Thermodynamics, Heat Transfer and Process Integration	2+1+0	48	II	SPS
EN-704	Water and Waste Water: Pollution & Control Technologies	2+1+0	48	II	RC
EN-705	Air and Noise Pollution: Effects and Control Technologies	2+1+0	48	II	RC
EN-706	Energy Management (Thermal)	2+1+0	48	III	SPS
EN-707	Energy Management (Electrical Systems)	2+1+0	48	I	SPS
EN-708	Efficient Lighting: Sources, Systems and Design Aspects	2+1+0	48	III	SPS
EN-709	Green Building Technologies	2+1+0	48	III	SPS
EN-710	Bio and Solid Waste Management	2+1+0	48	II	RNS
	TOTAL CREDITS (Core course)	30	480		
Elective Theory Courses					
EN-711	Sustainable development, Environmental Auditing and Environmental Impact Assessment	3+0+0	48	I	RC
EN-712	Energy Modeling and Project Management	2+1+0	48	II	RNS
EN-713	Electrical Power Generation, Instrumentation, Measurements, Transmission and Distribution	2+1+0	48	III	RNS
	TOTAL CREDITS (Elective/ Choice based course)	9	144		

EN-801	Heat Transfer and Energy Conservation Laboratory	0+0+3	48	I	RNS
EN-802	Biomass and Environmental laboratory	0+0+3	48	III	SPS/RC
EN-803	Solar Thermal and Photo - Voltaic Laboratory	0+0+3	48	II	SPS
EN-804	Energy & Environment Software Application	0+0+3	48	I	RC
	TOTAL CREDITS (LABORATORY)	12	192		
EN-805	Field Visits (Lab)	0+0+3	-	II	SPS/RNS/ RC
EN-806	Seminar	2	-	III	SPS/RNS/ RC
EN-807	Mini Project	0+0+4	-	III	SPS/RNS/ RC
EN-808	Major Project	0+0+12	-	IV	SPS/RNS/ RC
	Comprehensive Viva-vice	16(4+4 +4+4)	-	I+ II+ III+IV	External+ Internal
	TOTAL CREDITS (OTHERS)	37	-		
	GRAND TOTAL	88			

Note: The above course contents can be modified as per requirement from time to time in accordance with University Ordinance No. 14.