

SCHOOL OF ENERGY & ENVIRONMENTAL STUDIES
Devi Ahilya Vishwavidyalaya,

Programme Code: EN7C

Programme Title: M. Tech. (Energy Management) for Working Executives

The School started M. Tech (Energy Management) Programme under self finance mode in 2018. This program is exclusively designed to cater to the needs of working executives. The classes will be held over the weekends (Saturday & Sunday).

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:

The candidate should have at least 55% aggregate marks in B.E. / B.Tech./ M.Sc. (Physics) in a relevant subject or any other equivalent degree from a recognised University. Relaxation of 5% marks in eligibility for SC/ ST candidates.

The candidates must have minimum two years of working experience after qualifying degree. The 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:

The 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 maximum 20 marks.

Seats:

Unreserved-15; SC-1; ST-2; Sponsored-5 (Total seats: 18).

Duration:

Four Semesters (Two Years).

Fee Structure for Batch 2019-21:

Semester	Academic Fee	Development & Maintenance Fee	Students' Services Fee		Examination Fee	Total (Rs.)	
			Boys	Girls		Boys	Girls
First	15000	12500	3300	3111	2500	33300	33111
Second	15000	12500	2911	2722	2500	32911	32722
Third	15000	12500	3300	3111	2500	33300	33111
Fourth	15000	12500	2911	2722	2500	32911	32722

- 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.
- 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.

Program Structure (2019-21)

First Semester:

Code	Title	Credits (L-T-P)
CORE COURSES		
EX-701	Solar Energy: Fundamentals, Devices and Systems	4 (3-1-0)
EX-702	Engineering Thermodynamics, Heat Transfer and Process Integration	4 (3-1-0)
EX-703	Water and Waste Water: Pollution & Control Technologies	4 (3-1-0)
ELECTIVE COURSES-DISCIPLINE CENTRIC (Any One) through Online		
*EX-704	Energy conservation and Waste Heat Recovery	4 (3-1-0)
*EX-705	Design Of Photovoltaic Systems	4 (3-1-0)
ELECTIVE GENERIC:		
EX-801	Minor Project-I	4 (0-0-8)
	Comprehensive Viva-vice	4
	Total Credit	24

* Available on NPTEL Online Courses for session July –Dec. 2018. Need to be registered before 30th July and 6th Aug. 2018 respectively.

Second Semester:

Code	Title	Credits (L T P)
CORE COURSES		
EX-706	Air and Noise Pollution: Effects and Control Technologies	4 (2-1-1)
EX -707	Energy Management (Thermal & Electrical)	4 (2-1-1)
EX -708	New & Renewable Energy, Sources and Technologies	4 (2-1-2)
ELECTIVE COURSES-DISCIPLINE CENTRIC (Any One) through Online		
*EX -709	Online Courses related to Energy and Environment	4 (2-1-1)
*EX -710	Online Courses related to Energy and Environment	4 (2-1-1)
ELECTIVE GENERIC:		
EX -802	Minor Project-II	4 (0-0-8)
	Comprehensive Viva-vice	4
	Total Credit	24

Third Semester:

Code	Title	Credits (L-T-P)
CORE COURSES		
EX -711	Green Building Technologies	4 (2-1-1)
EX -712	Bio and Solid Waste Management	4 (2-1-1)
EX -713	Sustainable development, Environmental Auditing and Environmental Impact Assessment	4 (2-1-1)
ELECTIVE COURSES-DISCIPLINE CENTRIC (Any One) through Online		
*EX -714	Online Courses related to Energy and Environment	4 (2-1-1)
*EX -715	Online Courses related to Energy and Environment	4 (2-1-1)
ELECTIVE GENERIC:		
EN-803	Minor Project-III	4 (0-0-8)
	Comprehensive Viva-vice	4
	Total Credit	24

Fourth Semester:

Code	Title	Credits (L T P)
CORE COURSES		
EX -716	Energy Modelling and Project Management	4 (2-1-1)
EX -717	Electrical Power Generation, Instrumentation, Measurements, Transmission and Distribution	4 (2-1-1)
EX -718	Efficient Lighting: Sources, Systems and Design Aspects	4 (2-1-1)
ELECTIVE COURSES-DISCIPLINE CENTRIC (Any One) through Online		
*EX -719	Online Courses related to Energy and Environment	4 (2-1-1)
*EX -720	Online Courses related to Energy and Environment	4 (2-1-1)
ELECTIVE GENERIC:		
EN-804	Minor Project-IV	4 (0-0-8)
	Comprehensive Viva-vice	4
	Total Credit	24
	Grand Total Credit	96

*Exact title of the course would be declared time to time depending upon availability of online courses

Programme Outcomes:

- Acquire fundamental knowledge on the conventional and new and renewable energy sources, systems and technologies and their impact on environment. The students acquire expertise and skills to provide Renewable energy systems and technologies projects for Energy generation, Transportation and utilization with cost benefit analysis.
- Acquire expertise and skills needed for the Energy Management Systems and techniques of monitoring, Energy auditing, energy efficiency and conservation and for the projects development, implementation, and maintenance.
- The students acquire expertise and skills to make available as Energy Auditors/Managers/Consultants.
- Acquire expertise and skills needed for the Environmental Management Systems and techniques of monitoring, Environment audit, Environmental Impact Analysis, environment instrumentation and control systems and for the projects development, implementation, and maintenance. They also able to develop projects in view of Socio-Cultural and behavioral aspects of Energy production and environmental changes
- The trained manpower in Environmental and Waste Management provide the environmental Auditors/Managers/Consultants.
- The students will be able to analyze the energy and environmental systems and technologies with Resource Assessment and its optimum utilization.
- Acquire abilities to undertake R & D and consultancy work in the energy and environment related fields
- Students acquire skills for to communicate, prepare, plan and implement the energy project.

Programme Specific Outcome

- The application of fundamental knowledge to identify, formulate and investigate various problems of Energy and Environment of Residential, Commercial, Industrial and Rural including agricultural sectors
- The application of recent systems and technologies along with modern software tools for designing, simulating and analyzing and implement Energy and environmental systems to promote sustainable and natural system to meet the demand of energy without or low environmental impacts.
- The utilization of knowledge and expertise with skills regarding Energy management techniques and use of sustainable energy generating technologies for developing projects related to Energy management including Energy efficiency and energy conservation; and new and Renewable Energy Systems and technologies for thermal and Power generation, Protection, etc.