M.TECH

MECHANICAL ENGINEERING WITH SPECIALIZATION IN ENERGY SYSTEM

(MES) IIT MANDI

❖ Vision

- To develop sustainable energy systems, materials and solutions for future.
- To cater the huge demand of energy professionals in India as well as overseas.
- To integrate the study of technology, business and science of Mechanical engineering, focusing on the key areas of energy.

❖ Academic Curriculum and Courses

Curriculum:

The course curriculum consists of one-year course work followed by a one year of dissertation. This curriculum has been designed to make the students able to take up a professional or research career either in industries or academia after the completion of the course.

Total Credits requirement72(Minimum)
Dissertation: 32 Credits
Course work: 39 Credits

Industrial training: 4-6 weeks (1 Credit)

Courses for MES Branch:

Mechanical

- Design of Energy Systems
- Manufacturing of Energy Systems
- Mechanics for Energy Systems
- Experimental Methods in Thermal Engineering
- Energy Sources and Power Plants
- Advanced Fluid Mechanics
- Mechanics of Composite Materials
- Advance Convective Heat Transfer.
- Solar Photovoltaics Energy Systems

Contact us

Faculty Advisor Career &Placement Cell

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Energy

- Energy Storage Technologies
- Emerging Energy Sources
- Energy Systems Laboratory
- Energy: Environment Policy and Law
- Research Practicum (Minor Project Work)

Entrepreneurship

- Essentials of Entrepreneurship

Computational

- Modeling and Simulation
- MATLAB, Simulink
- Computational Fluid Dynamics
- Advanced FEM

Mathematics

- Numerical Methods
- Financial Management
- Statistical Methods

❖ Labs and Facilities Available

AMRC (Advanced Materials Research Centre)

Webpage: http://www.iitmandi.ac.in/research/amrc/

Facilities:

- Optical Microscope
- Gas Chromatography
- High Performance Liquid Chromatography

and many more…

Energy lab Facilities:

- Parabolic Trough Collector
- Electrochemical workstationfor characterization of Battery, Supercapacitor, fuel cell etc.
- 1KW On-grid and 1KW Off-grid Solar Photovoltaic Installation
- Device Lab for Manufacturing of Solar Cells

Vibration Acoustic Lab

Facilities:

- Inch and 0.25-inch Microphone and speakers
- Impedance tube
- NI C-DAQ

Internal Combustion Engine lab

Facilities:

- Fourier Transform Infrared Spectroscopy (FTIR)
- Engine Exhaust Particle Sizer Spectrometer (EEPS)
- BS-IV Dual Fuel Engine

Nanoscale Materials and Devices Lab

Webpage: http://nanoscalelab.in/

Facilities:

- Nano Indentation
- Thermal Chemical Vapor Deposition
- DC/RF magnetron sputtering
- Atomic Layer Deposition
- Smart Materials and Structures Laboratory (SMSL) and many more.

❖ Achievements

- Mr. Sudhanshu Gangwar from MTech. (MES) got fellowship from DAAD Germany under the scheme India IIT Master Sandwich program, 2022.
- Mr. Shubham Attri from MTech. (MES) got selected in University of Wisconsin- Madison for PhD in 2021
- Mr. Ankit Pandey (MES) and Mr. Smit Kansgara (MES) got internship in Tata Motors (2022).
- Mr. Prashant Sharma (MES) got internship in Volvo Group (2022).

❖ Students Skills

❖ Previous Recruiters

- KPIT
- Arcelor Mittal & Nippon Steel
- Tejas
- Ather Energy
- Tata Motors
- Jupiter Solar

- P2 Power
- FRESENIUS KABI
- Seimens Gamesa RE
- Capital Dynamics
- Caterpillar Inc
- Vikaram Solar

- Azure Power
- Maruti Suzuki
- Wipro
- Log 9 Materials
- Byju's & Aakash
- Cummins India
- ICICI Bank