Research Projects

- Solar powered high recovery desalination system to provide clean water
- A complete solution for industrial waste water- approaching to Zero Liquid Discharge (ZLD) with water and energy savings schemes
- Low Cost- Renewable Energy Driven (LC- RED) Water Treatment Solutions Center
- bio-mimetic and phyto-technologies Designed for low-cost purification and recycling of water bio-mimetic and phyto-technologies Designed for low-cost purification and recycling of water
- Development of liquid desiccant heat pump system for hot and humid regions
- Evaluating the performance enhancement of small scale absorption refrigeration system using Nano particles
- Design and development of solar assisted hybrid heat pump system for food drying
- Design and development of desiccant based humidifier system for atmospheric water recovery unit
- Design and Development of Hybrid Battery Thermal Management System for Electric Vehicles (EVs) using Phase Change Material
- Smart steam disinfection system to fight COVID-19

Eligibility criteria:

B.E./B.Tech. or equivalent in Mechanical/ Energy Science & Engineering with minimum 60% or CPI/CGPA of 6.5 on a 10 point scale.

State of Art Infrastructure	Hostels	Cafeteria	Lecture Halls Auditoriums Library Gymnasium

Off. Koba - Gandhinagar Highway, Raisan, Gandhinagar-382007, Gujarat. India
Phone: +91 79 23275060, 23275414, 23275415
Fax: +91 79 23275030

www.pdpu.ac.in

About University

Pandit Deendayal Energy University (PDEU) has been established by GERMI as a Private University through the State Act enacted on 4th April, 2007. The University offers programs to address the need for trained human resources in the domains of Science, Technology, Management and Humanities. It intends to broaden the opportunities for students and professionals to develop core subject knowledge which are duly complemented by leadership training interventions, thereby helping the students to make a mark in the global arena. This objective is being further addressed through several specialized and well-planned undergraduate, post-graduate and doctoral programs as well as intensive research projects. PDEU offers multiple courses ranging from engineering, arts and management along with maximum exposure and opportunities to its students through various national and International exchange programs with Best Universities worldwide. For development of its faculties and staff the University endeavors for various Joint Exchange and Research programs.

About the Program

The Thermal Engineering course lays emphasis on real-time applications of fluid flow and heat transfer in Thermal energy systems, Cryogenic Engineering and Refrigeration & Air Conditioning etc. It trains students in the design, development and simulation and enables them to explore new areas in Thermal Energy Systems and allied sciences.

Salient Features

- The aim and the purpose of this course is to:
- Impart education in the fields of Fluid Dynamics, Heat Transfer, Thermal Design and development of various components.
- Instill advanced knowledge of the sciences in the relevant fields.
- Augment formal training through lectures, hands-on training courses and workshops.
- Provide access to the latest computational software packages such as ANSYS– fluent, CFX, Pro-E-Wildfire, AutoCad, Solidworks, Ansys and Abaqus, COMSOL Multi physics, Refprop, MATLab, EES etc.
- Enhance practical know-how through industry – institute interaction.

Course Structure

Thermal Engineering is a two year (four semester) course in which the first two semesters deal with theory subjects and laboratories and the third semester deals with seminar and project work – phase-I; and the fourth semester deals with seminar and project work – phase-II.

Core Subjects

Advanced numerical techniques and computer programming
Advanced Fluid Mechanics
Advanced Engineering Thermodynamics
Experimental Methods
Advance Heat Transfer
Computational Fluid Dynamics
Successful Research Program Development

Elective Subjects

Cryogenics
Heating, Ventilation and Air Conditioning
Advanced Gas Dynamics
Renewable Energy & Energy Management
Finite Element Methods
Design & Optimization of Thermal Systems
Advanced Convective Heat Transfer
Solar Thermal Systems
Turbomachinery
Heat Transfer Equipment Design

Faculty Profile

Dr. Surendra Singh Kachhwaha
Professor
Research Interest:
Refrigeration, evaporative cooling, Bio-diesel production and application, renewable energy sources.

Dr. Anurag Mudgal
Associate Professor
Research Interest:
Renewable and non conventional- alternative energy resources especially solar for the purpose of water treatment

Dr. Rajesh Patel
Associate Professor
Research Interest:
Fluid Catalytic Cracking (FCC), Thermal System Design.

Dr. Vivek Patel
Associate Professor
Research Interest:
Thermal system optimization, Refrigeration and Air-conditioning

Dr. Jatin Patel
Associate Professor
Research Interest:
Solar Thermal System, HVAC

Dr. Ravi Kant
Assistant Professor
Research Interest:
CFD, Aerial Robotics, Fluid Flow Instability.

Dr. Anirudh Kulkarni
Assistant Professor
Research Interest:
CFD, Biofluid dynamics

Dr. Rajat Saxena
Assistant Professor
Research Interest:
Latent Thermal Energy Storage, PCM

Dr. Parth Prajapati
Assistant Professor
Research Interest:
Organic Rankine Cycle

Mr. Rahul Deharkar
Lecturer
Research Interest:
Water desalination

Mr. Abinaya Bhasuru
Lecturer
Research Interest:
Offshore Wind Energy

Laboratory Facilities


Thermodynamics, Heat Transfer


Refrigeration & Air Conditioning


Non conventional energy sources


CAD


IC Engines


Fluid Mechanics and Machinery

International collaboration

- Ryerson university, Canada
- University of Birmingham, United kingdom
- Denmark technical university, Denmark
- IHE delft institute for water education, Netherland
- Centre for energy, environment and technology research, Spain
- LEITAT Technological center, Spain

National collaboration

- ITER, Ahmedabad
- IPR, Bhat
- ISRO, Ahmedabad
- Madhur dairy, Gandhinagar
- Arvind mills limited, Kalol
- NEERI, Nagpur
- CSIR, Bhavnagar
- Ingersoll rand limited, Ahmedabad
- L&T, Powai, Mumbai
- GCCI, Ahmedabad