

Course Outcome

Course	Outcome
LISTENING AND SPEAKING SKILLS IN ENGLISH	To improve students' listening skill in getting the gist of the text and reconstruct it
Mathematics	Apply mathematical concepts and principles to perform computations. Apply mathematics to solve problems
Basic Electrical and Electronics	To expose the students to the basics of units, measurements and electrical circuits To expose the students to various electronic components, its working and some of the applications"
Fundamentals of Sustainable Energy and Development	Understand the difference between renewable and non-renewable energies Create awareness in understanding the types of renewable energy benefits of harvesting renewable energy Understand the characteristics and operations of each type of renewable energy Become aware of the importance of renewable energy generation"
Practical General Physics Lab	To expose students to elementary laboratory techniques To identify physical concepts in their everyday experience. To develop habits and practices that minimize uncertainty in physical measurements."
"Practical- Introduction to Computers"	Hands-On Practice Helps Students Master IT Skills
"Writing and Presentation Skills in English"	To improve students' soft skills which would be vital in an industry. To improve and enhance students' demeanor."
Fundamentals of Electrochemistry	To allow the students to gain necessary basic knowledge in order to understand, analyze and solve problems related to electrochemical processes. To acquire knowledge about the applications of electrochemistry in the fields of fuel cells, batteries, electrolytic processes and electrochemical corrosion. To gain basic abilities in calculations on electrochemical systems and in experimental methods in electrochemistry"

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Photovoltaic Module Installation	Provide understanding of the science and engineering issues related to the design and development and installation of Solar PV modules
Practical- Computer Application Lab: MATLAB	To familiarize the student in introducing and exploring MATLAB software. To enable the student on how to approach for solving problems using MATLAB programs. To prepare the students to use MATLAB in their project works. To provide a foundation in use of this softwares for real time application"
"Practical- Electronics and Photovoltaic modul installation	To study the basic electronic components, their working and characteristics To familiarize with PV system components and the basic tools for PV module installation."
"Water and Wastewater Treatment"	To introduce basic unit processes involved in drinking water and wastewater treatment. To make the students aware of the necessity of water management in the present scenario"
"Operation and maintenance of Solar PV systems"	To improve the quality of Solar PV system installations, especially in the rooftop solar segment To make the students aware of operation and maintenance involved in the solar PV sector as well as to introduce them to concepts of safety, electricity billing and documentation"
Solar Thermal Technology	To develop student knowledge of solar thermal energy and radiation along with its application. To understand the solar resource and utilization of solar thermal energy To convey the principle, operation and various applications of solar thermal energy"
Wind Energy	To improve the understanding of the main wind energy concepts and the application of general engineering knowledge in the design and construction of wind energy equipment To make the student understand, analyse and utilize wind resource To familiarize with the components, principle of operation and economics of wind power generators."
"Practical- Thermodynamics and Solar Thermal"	To investigate and experiment with basic thermodynamic concepts and solar thermal application in the laboratory To familiarize with thermodynamic aspects of various materials To use various equipments used for measuring solar radiation and to provide hands on experience in operation of solar water heaters."

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Practical- Fluid dynamics and Wind energy	<p>To provide knowledge of wind energy applications and measuring wind data.</p> <p>To study the characteristics of wind, and wind quality measuring equipments</p> <p>To understand various applications of wind energy"</p>
"Planning and Installing Solar Thermal Systems"	<p>Understand the basic principles of design and operation of solar thermal energy conversion and apply those principles to a wide variety of solar thermal systems and applications</p> <p>Understand how to estimate available solar energy for a given site and application</p> <p>Understand the design and economics of solar thermal systems"</p>
"Practical- Fluid dynamics and Wind Energy"	<p>To provide knowledge of wind energy applications and measuring wind data.</p> <p>To study the characteristics of wind, and wind quality measuring equipments</p> <p>To understand various applications of wind energy"</p>
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Waste to Energy Conversion	<p>To keep the knowledge of students upgraded with the current thoughts and newer technology options along with their advances in the field of the utilization of different types of wastes for energy production.</p> <p>To understand the various waste generation sources and their management.</p> <p>To know the various waste to energy conversion technologies.</p> <p>To understand various impacts like health and environment issues and significance of different technologies.</p> <p>To get acquainted with commercial aspects of waste to energy."</p>

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Bioenergy	<p>To provides an overview of key topics on sustainable bioenergy production, including the main biomass systems for bioenergy generation and the wide range of bioenergy conversion and utilisation methods.</p> <p>To enable students to analyse the main biomass systems that can be used for biomass energy conversion and utilisation.</p> <p>To enable students to develop designs for biomass energy conversion and utilisation within the context of a whole systems approach.</p> <p>To enable students to critically evaluate the environmental benefits and consequences of biomass energy production."</p>
Energy Storage Systems	<p>To understand the fundamental theory of energy storage technologies</p> <p>To make the students understand the key energy storage technologies work, and novel developments in energy storage technology research.</p> <p>Understand how storage technologies solve real-world problems at domestic, city and grid scales"</p>
"Practical- Solar Photovoltaics and Energy Storage Systems"	<p>To build a foundation for understanding Solar PV system and Energy storage technology integration.</p> <p>To study the characteristics of PV System components</p> <p>To analyse the properties of various energy storage devices."</p>
Environmental Studies	<p>To bring about an awareness of a variety of environmental concerns</p> <p>To create a pro-environmental attitude and a behavioral pattern in society that is based on creating sustainable lifestyles</p> <p>To acquire knowledge of pollution and environmental degradation."</p>
"Material Science for Energy Applications"	<p>To introduce the students to basics of materials science and engineering.</p> <p>To learn about the properties of various materials and special coatings and applications.</p> <p>To understand the testing of materials behaviour suitable for application in solar energy systems and environmental impact on solar system materials and corrosion protection."</p>

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"Energy Conservation Techniques"	<p>To develop skill and capacity for effective energy conservation</p> <p>To impart knowledge in the domain of energy conservation</p> <p>To inculcate knowledge and skills about assessing the energy efficiency of an entity/ establishment</p> <p>To know various types of energy losses and the associated energy efficient technologies for the routinely used thermal and electrical energy systems."</p>
Industrial Health and Safety	<p>To foster a safe and healthy work environment at work.</p> <p>To become familiar to occupational environment</p> <p>To assure safe and healthful working conditions"</p>
"Practical- Advanced Solar Photovoltaic Lab"	<p>Analysis of Photovoltaic module characteristics under various circumstances can help to choose most economical/suitable practices of Photovoltaic array installation.</p> <p>Comprehend the electric characteristics of photovoltaic cells and modules</p> <p>Be able to assess the output of a module based on the manufacturer's STC figures</p> <p>Understand the influence of temperature on the performance of PV cells</p> <p>Understand the combination and characteristics of PV cells"</p>
"Project Management and Entrepreneurship"	<p>To provide an understanding of the key elements in project management as well as the processes and motivations of innovation and entrepreneurship.</p> <p>To develop entrepreneurial spirit among students</p> <p>To empower students with sufficient knowledge to start up their venture with confidence</p> <p>To mould young minds to take up challenges and become employer than seeking employment</p> <p>and to make them aware of the opportunities and support for entrepreneurship in India"</p>

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"Energy Management and Auditing"	To encourage implementation and proper and efficient use of energy To minimise energy costs / waste without affecting production & quality To minimise environmental effects.
Grid Integration	To equip the students for qualifying Roof top grid solar engineer course by sector skill council for green jobs. To get acquainted with various hybrid renewable systems for power To get knowledge on pre-commissioning Inspection and post commissioning testing of the Grid Connected Rooftop Solar PV Power Plant Maintain Personal Health & safety at project site"
"Practical- Renewable Energy System Design Using software"	To give an introduction to Software assisted design and drawing Learn to take data and transform it into graphic drawings. Learn basic Autocad/PVsyst/PVSol skills. Learn basic engineering drawing formats for Renewable Energy systems"
"Industrial Training, Final Project Report and Viva"	