

Course title: Energy Systems Lab			
Course code: DSE 116	No. of credits: 3	L-T-P: 17-00-56	Learning hours: 73
Pre-requisite course code and title (if any):			
Department: Sustainable Engineering			
Course coordinator: Prof. Naqui Anwer		Course instructor: Prof. Naqui Anwer	
Contact details: naqui.anwer@terisas.ac.in			
Course type: Core		Course offered in: Semester 2	
<p>Course Description:</p> <p>Laboratory experiments help in better understanding of the subjects discussed in the classes. The experiments based on science/engineering principles stimulate students for further investigation. This course is designed to provide a comprehensive understanding of energy technologies and their practical applications. It combines theoretical knowledge with hands-on laboratory work to prepare students for careers in the energy sector.</p>			
<p>Course objectives:</p> <ul style="list-style-type: none"> • To provide hands-on experience on experimental setups related to solar radiation measurement • To provide practical learning about the basic operation of solar thermal collector • To provide hands-on experience on experimental setups related to box type solar cooker • To provide practical learning about the biomass for energy 			

Evaluation criteria

Test 1: Performance during experiments - 30%

Test 2: Viva-voce (at the end of the semester) - 30%

Test 3: Practical Exam (at the end of the semester) - 20%

Test 4: Practical Records (spread over the entire semester) - 20%

Learning outcomes

After completing this course, students would be able to:

- Measure solar radiations and test the performance of different solar thermal applications
- Characterize solar cells and analyse different parameters such as power flow, efficiency of different components such PV module, battery, inverter and PV system
- Characterize the properties of solid biofuels along with performance testing of cook stove