**Re-energize Workshop**

**Texas State University**

**May 16-20**

**Injecting Training Materials Into The Classroom**

Instructions: Using the suggested teaching activities presented at the end of each lecture, identify two activities that most interest you. Fill up the form below to show a plan that integrates these activities into your classroom. Submit the forms at the end of this session.

**Name:**

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**Institution:**

Huston-Tillotson University

**Title of the Course:**

Freshman Natural Science Seminar

**Expected Number of Students:**

24/semester

**Expected Number of Minority Students:**

24/semester

**Description of Course Activity (i.e. Homework, Example, Quiz, Project, etc.):**

Class Session 1 – Solar Energy Demonstration and Homework:

a) Introduce the concept of solar energy and discuss how photovoltaic panels generate electricity. We will visit the HT campus systems – a portion of rooftop solar array and the RE-ENERGIZE linked system. We will view the real time output data and discuss the factors that impact production. (50 min)

b) As a homework assignment, students will collect data from the RE-ENERGIZE network of solar systems on the participating campuses. They will answer questions about output and investigate the pros and cons of solar energy.

Class Session 2 – Human-Centered Design

a) Use human-centered design (HCD) to design a solar product or service. Introduce the HCD process and give general project parameters. Students will then work in groups on a design and present it. (50 min)

**Objectives of Activity:**

1. Explain principles of solar energy and photovoltaic technology.

2. Compare natural and artificial factors that impact the generation of solar energy.

3. Appreciate solar energy impacts and applications.

**Student Deliverables:**

Students will submit their data tables and answers to analysis questions. Students will present their product design.

**Implementation Plan:**

The Natural Science and Computer Science cohorts of Freshman Seminar taught by Masino and Johnson-Jones will implement the solar energy demo and assignment. Magid will co-teach the human-centered design portion alongside Masino and Johnson-Jones. This demo will be paired with a guest speaker on STEM careers in renewable energy technology and research.