

**Job Description**

**Instructor for Sustainable Energy Engineering**

**Course Description:**

Sustainable Energy Engineering (SEE) is a new four-week summer course for high school students who would like to learn more about sustainable energy technologies and the field of engineering. Students will either live in the residence halls or commute to campus from home. Two sections of 20-24 students each will be offered in 2023, which will serve as a pilot for expanded offerings in the future.

SEE covers a range of fundamental topics. It begins by discussing the impact of energy in our daily lives, then moves on to discuss generation, transmission, distribution, and storage. The course provides an overview of hydropower, wind, biomass, and solar energy before discussing energy use in transportation and buildings. Students also learn the basics of energy economics and planning before they complete an independent final project. The course includes hands-on lab experiments and group data analysis.

Students have the opportunity to earn three credits from Johns Hopkins University. Ultimately, the goal of the course is to expose students to engineering principles, allow them to apply the math and science they learn in high school to solving real world problems, and to help students develop critical thinking skills.

**Sustainable Energy Engineering Course Dates:**

In 2023, the course dates are July 3 to July 28, Monday through Friday, from 9 a.m. to 3 p.m. The course will be held in-person at the Johns Hopkins Homewood campus in Baltimore, MD and the Hood College campus in Frederick, MD.

**Instructor Description:**

We are looking for an Instructor who understands, appreciates, and can apply an instructional style that emphasizes the process of problem-solving rather than memorizing material. The object is to engage students by getting them to think and participate rather than being lectured to. The SEE class has a broad range of 20-24 students with diverse backgrounds and the Instructor must be prepared to accommodate a multitude of learning styles. Finally, the Instructor must be able to engage, encourage and excite the students.

The ideal candidate will have experience teaching at the college level and a PhD in an engineering discipline that is covered in the SEE course. Substantial experience in engineering practice along with teaching is also acceptable. It should be noted that each SEE class is taught by a team comprised of an Instructor and a Teaching Fellow (TF) who is a high school math or science teacher.

**Instructor Responsibilities:**

The responsibilities of the Instructor include but are not limited to:

* Instructor must be present and available during the entire course.
* Instructor must be prepared to spend time independently to review course materials and complete the online training program prior to the first day of the course.
* Instructor should be able to deliver lectures on a wide range of engineering topics and be able to relate the curriculum to high school students.
* Instructor must take the lead in organizing the course, giving lectures, and ensuring assignments are graded and returned to students in a timely manner.
* Instructor must work with the Teaching Fellow to develop a sense of community for the high school students participating in the class.
* Instructor must work with the Teaching Fellow to manage labs and projects.
* Instructor must be available for supplementary instruction outside of class hours.
* Instructor must ensure that students receive their graded assigned work promptly – within 1-2 days of the assignment due date – and provide detailed feedback to students so that they are able to learn from the activity and improve their future performance.
* Instructor must ensure that grades are posted to the learning management system in a timely manner.
* Instructor must ensure that child safety protocols are upheld.

Sustainable Energy Engineering Instructors receive an academic appointment from Johns Hopkins University’s Academic Council and are subject to prescreening.

**Contact:**

Please send your CV and a 1-page teaching philosophy to ei@jhu.edu.

