Job Description

Sustainable Energy Engineering

Instructor

# Course Description

Fossil fuels will eventually run out and, before they do, burning them for energy production will continue to contribute to our warming planet. Where does all the energy go and how can we use less energy? Recognizing that even with reductions in our energy use, we will still need to make changes to energy production, how can we design and implement new sustainable energy technologies that are resilient, economical, and may be incorporated into the existing power grid? To answer these questions, we need to take a deep look at the ways we currently use energy so that we may find ways to reduce our use, and we must study the science and engineering concepts behind our current methods of energy production and distribution, as well as the impact of policy on our ability to make change. Sustainable Energy Engineering (SEE) introduces students to these topics, giving them the fundamental knowledge necessary to understand the challenges and opportunities in sustainable energy engineering, and to decide whether this is a field they want to pursue.

SEE is a freshman-level college course and students have the opportunity to earn three credits from Johns Hopkins University. Each SEE class consists of 16-24 students with diverse academic backgrounds. Each class is team-taught by a PhD-level engineer (the Instructor) and a high school STEM teacher (the Teaching Fellow). The Instructor is the lead teacher when it comes to delivering course content. Select sections of SEE also have assigned to them a student Teaching Assistant (TA).

# Course Locations and Dates

The tentative list of SEE locations for 2025 is:

* Johns Hopkins University Homewood campus – Baltimore, MD
* Hood College – Frederick, MD
* Ohlone College – Fremont, CA
* Pasadena City College – Pasadena, CA

In 2025, the course dates for SEE are June 30 to July 25, Monday through Friday, from 9 a.m. to 3 p.m. (no class on July 4th). There will also be training before the course starts and wrap-up activities after the course ends.

# Instructor Responsibilities

We are looking for Instructors who understand, appreciate, and can apply an instructional style that emphasizes the process of problem-solving rather than memorizing material. The objective is to engage students by getting them to think and participate rather than being lectured to. Instructors 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 relevant to the SEE course. Substantial experience in engineering practice along with teaching is also acceptable.

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

* Instructors must be present and available during the entire course.
* Instructors 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.
* Instructors should be able to deliver lectures on sustainable energy engineering topics and be able to relate the curriculum to high school students.
* Instructors must take the lead in organizing the course, giving lectures, and ensuring assignments are graded and returned to students in a timely manner.
* Instructors will be responsible for providing feedback and assigning grades for major assignments and for the course overall.
* Instructors must work with the Teaching Fellow to develop a sense of community for the high school students participating in the class.
* Instructors must work with the Teaching Fellow to manage labs and projects.
* Instructors must be available for supplementary instruction outside of class hours.
* Instructors 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.
* Instructors must ensure that grades are posted to the learning management system in a timely manner.
* Instructors must ensure that child safety protocols are upheld.

Candidates for these positions will be subject to a pre-employment background check and fingerprinted per policies related to working with minors. All employees participating in Hopkins Pre-College programs must enroll and participate in mandatory online training relevant to working with minors and working at JHU.

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

# Contact

Please email ei@jhu.edu to inquire about this opportunity.