TPSS 236
Renewable Energy and Society

Justification
Why is this course being requested or modified?

Renewable energy solutions to meet energy demands are essential to decrease dependence on oil and reduce greenhouse gases, which contribute to global warming. The UH has no course offerings that address these issues, specifically evaluation of renewable energy technologies, which will provide students with a basic knowledge and perhaps ignite their interest to take advanced courses in this and related areas.

How will the content be organized?

Please see attached syllabus.

What other courses at UHM closely parallel the proposed course and in what way will the latter make a distinct contribution?

There are no other courses which closely parallel the proposed course. The proposed course will make a distinct contribution by fostering student awareness of the global impacts that renewable energy may make in our society and increase their ability to form science-based opinions on this topic.

Where or how does the proposed course fit into the current and future curriculum?

This course is the first offering in the area of renewable energy. It fits into current curriculum by building students’ oral and written communication skills, and improving their science-based evaluation of modern technologies that will affect their lives. Future offerings will be developed for undergraduates and graduate students to train the next generation of scientists and engineers in this field and increase student awareness of renewable energy choices and their impacts on society.

Why is the number of credits and level justified? Explain the prerequisites and the absence thereof.

The proposed 3 credit course will meet for two 75 minute classes for combined lecture and discussion. While the course will include discussion of scientific principles and engineering technology, it will not require an in depth knowledge acquired from prerequisite courses, thus there are not prerequisites for this course.

How will the course assist students to achieve the critical skills and competencies expected of CTAHR graduates?

The course will assist the students in several critical professional development skills and competencies. Specifically,
1. **Writing** - the course will require students to write a paper on a student-identified topic in renewable energy and approximately weekly essays on the current lecture topic.

2. **Oral** - students will be required to give a 15 minute oral presentation to the class that addresses the renewable energy topic covered that week in class. Student participation in class discussion will also be encouraged by asking for one or more students to read aloud their weekly essay.

3. **Analytical/problem solving** - students will be challenged to evaluate information presented in class by the instructor, fellow students, and in the media related to renewable energy. Class discussion and writing assignments will aid in the further development of problem solving skills.

4. **Personal characteristics** - Students will develop and improve their personal characteristics through class presentations and discussion with their peers. Their opinions will be heard and discussion in a friendly and positive environment.

5. **Global perspective** - students will be expected to think critically about anthropogenic effects on the earth’s environment and climate and consider their contributions to the problem and potential solutions.

**How will students be evaluated?**

The syllabus outlines the expectations of the students. Briefly, the students will be evaluated on the quality of their oral presentation to the class, score on the mid-term examination, final paper, attendance, and class participation. Class participation will be evaluated in several ways: students will be called upon to recite their written essays, give their opinion on the class discussion topic, and their participation in class discussion.

**What are the minimum qualifications for teaching this course? Is a qualified instructor now available?**

A basic understanding of science and renewable energy technology is required to teach this course. Dr. Brian Turano is the Assistant Specialist for Bioenergy and is fully qualified to teach this course.

**How will the course be financed, assuming no further cutbacks?**

The course requires no additional resources.

**Has the course been offered before? Is there a demand for it?**

The course has not been offered before. A recent survey of CTAHR undergraduates showed an interest in this course and others in this area.
Is the course cross-listed with another department?

The course is not cross-listed, but will likely be requested in the future.