

RENEWABLE ENERGIES AND SUSTAINABILITY EDUCATION

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2015 FESC Workshop, Orlando, FL (May 20-21, 2015)

Track II: Education

Project Summary

- This education proposal is aimed at developing a stand-alone course content accessibility, conducting competitions and workshop that can be offered to undergraduate and graduate students at the Florida Polytechnic University.
- The related content would be available through online education delivery platforms and as a byproduct, would be accessible by the general public and may provide added awareness and public outreach.
- This work will be aligned with the renewable energy and sustainable infrastructure initiative at the University.
- This course will create awareness and engagement of various renewable energy systems, technologies promoting sustainable, and economic development concepts supporting entrepreneurship among students and industry (Mosaic and others) that impacts the workforce and the economy of Florida.

Project Description

- **Curriculum Description:** The proposed course “Renewable Energy Systems and Sustainability” (EEL 3287) is part of new discovery track of courses which will discuss a wide range of energy, sustainability and related applications, which will reflect on the various physical or online resources and how the hybridization of technologies will produce new opportunities for economic development. Some of the topics discussed include harvesting, renewability, sustainability, storage, materials utilization, renewable energy & sustainability entrepreneurship, smart grid and infrastructure integration.
- The team will explore curriculum that includes a Renewable Energy Systems and Sustainability course. On successful implementation and outcome of the above mentioned **EEL 3287** course, the co-PIs may explore the potential development of an advanced undergraduate course and a graduate course as part of the future work.

Project Flow

Summer & Fall 2015 Semesters: May 2015 -December 2015:

Course syllabus preparations, PowerPoint presentations on subjects related to renewable energy and sustainability as guest lectures, and demonstrations related to renewable energy and sustainability as guest lectures. Provide monthly reports.

Fall 2015 Semester: August – October 2015

Community, service-based student-led projects focused on course materials at the discretion of the students and the instructors, competition program plan and other course or outreach planning related to the proposal. Provide monthly reports and semester report

November– January 2016:

Review of the course and design the workshops, quizzes, pre- and post-tests, assessments and other policies, delivery mechanisms, etc. Provide monthly reports and summer report

Spring 2016 Semester: January – June 2016:

Enable course access via learning management systems for students, preparation of Course Learning Outcomes, Development of Assessment and analysis methods and/or any other tools related to the proposal. Course teaching, Student mentoring for minor projects, inviting guest speakers for workshops and other activities. Provide monthly reports, semester report and annual report

Summer 2016 Semester: May – July 2016:

EEL 3287 Course assessments, outreach assessments, analysis, reports submission as deliverables. Provide monthly reports

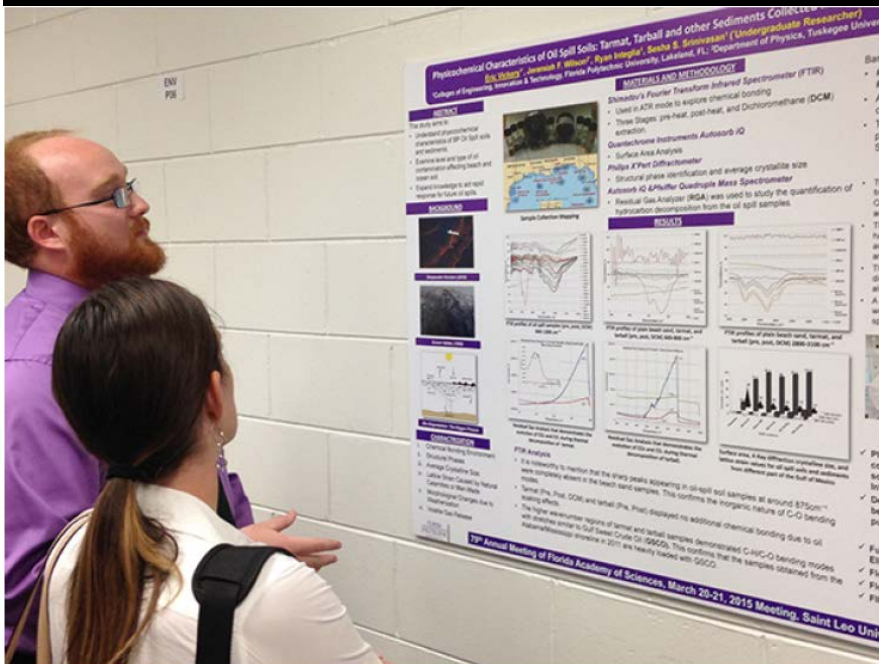
Fall 2016 semester –

potentially offering of the course to define growth of student engagement and assessment

Spring 2017 semester – To submit the final report to FESC.

Students Accomplishments

Student Presentations Recognized by Florida Academy of Sciences



Two Florida Polytechnic University students have been honored by the Florida Academy of Sciences for their poster presentations. Freshman Eric Vickers (pictured above) and sophomore James Mulharan presented their research posters at the 79th Annual Meeting of the FAS at Saint Leo University. Both students major in Electrical Engineering at Florida Poly.



James Mulharan's poster presentation, titled "Hydrogen Storage Materials for On-Board Fuel Cell Vehicles," was recognized as an Outstanding Undergraduate Student Poster Presentation by the Engineering Sciences Section of the Academy.