OAKLAND UNIVERSITY

Friday, November 21, 2008

OU students use ingenuity to harvest energy

*By **Dave Groves**, news editor*

Just after introducing himself to a group of seniors in the School of Engineering and Computer Science this semester, Associate Professor of Mechanical Engineering Michael Latcha asked what they thought about the idea of retiring in January.

The suggestion may have at first seemed a bit ludicrous to students just now preparing to embark on their careers, but it was no joke.

In fact, this was Latcha's way of introducing the group to a broad and inspiring range of possibilities they'd be exploring as part of their senior design project. He explained that because students are given exclusive ownership rights to any ideas they develop, it would be entirely within their power to market and reap the benefits of commercially viable products they design.

Student teams were asked to build an electrical generating system capable of recharging a cell phone in eight hours. A simple problem, it may have seemed, until it was revealed that the devices could not use any form of fuel.

Latcha explained that a practical and affordable device meeting these requirements would likely garner immense interest in Bangladesh, for example. There, 45 million people have cell phones, but many have no home electrical service with which to charge them.

"It's absolutely amazing, some of the ideas they've come up with," Latcha said of his students.

Those ideas will be put on display during the Fall 2008 Senior Design Exposition, which will take place from 10 a.m. to noon on Monday, Dec. 8, in the Banquet Rooms of Oakland Center. Student projects from the sophomore design course also will be on display, as will senior projects from the Computer Science and Information Technology programs.

Though modest in size relative to other engineering schools, SECS is the only one in the nation that has students in mechanical, electrical, computer, and industrial and systems engineering programs pool their talents in senior design projects.

For the last four years, the results have been nothing less than inspirational.

Last year, for example, design teams assigned to create products that generate and store electrical energy without the use of fuel came up with wind and wave generators, floor tiles that generate power when stepped on, small-scale generators that produce energy with the opening and closing of doors and a battery-charging ball that becomes active as it rolls around the trunk of a car. One team even set its sights on obtaining a patent for its product.

"Team members rely on each other for their individual backgrounds and for their own areas of expertise," Latcha explained. "And they have to draw on all of their background, not just what they've learned in school."

Mechanical engineering student Ryan Sredzinski said instructors insist that students independently solve each step of the development process. This includes overcoming obstacles and setbacks that any design team is likely to encounter.

"With this, you're on your own," Sredzinski explained. He added, however, "It's a lot of fun starting from scratch."

Sredzinski's team is working on a device that, when attached to the bottom of a bicycle seat, produces electricity from motion generated by the person riding the bike.

Mechanical engineering student Mike Megiveron said the project has offered a great opportunity to explore the practical applications of concepts being taught in the classroom.

"Experience is a much better teacher than being told what to do," he said.

His teammate Frank Walega, also a mechanical engineering student, agreed. "There's a lot of freedom to it," he explained.

Latcha noted that while a number of design teams have developed products that have almost immediate market viability, he hasn't yet learned of students who've pursued or fully realized their entrepreneurial opportunities.

He said, however, that these future engineers are definitely being exposed to the fact that success is never beyond their reach.

"At the end of the semester, I want students to walk out of here knowing that they can do anything if they put their minds and a little effort into it," he said. "The only way you can build that sort of thing up is to give them a task that seems impossible and let them overcome it."

SUMMARY
Seniors in all of the university's engineering programs have pooled their talents to build electrical generators that use no fuel.

Created by David Groves (groves@oakland.edu) on Friday, November 21, 2008
Modified by David Groves (groves@oakland.edu) on Friday, November 21, 2008
Article Start Date: Friday, November 21, 2008