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# Universities offer new energy programs

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**Posted: 4/16/08**

With more and more Americans warming up to the idea of renewable energy, the Oregon Institute of Technology this year will graduate the initial crop of students from its first-in-the-nation undergraduate program in the field - and several more schools are on the verge of following suit.

OIT started the program after seeing "a need for renewable energy engineers in the work force," Robert Bass, assistant professor and program director of the Renewable Energy Systems Program at OIT, wrote in an e-mail to The Herald. He added that the university was "well placed to start this program ahead of the renewable energy growth curve" because of its long history using and teaching about renewable energy.

The degree program requires a grounding in chemistry, physics, math and communications, and then progresses to higher-level courses on renewable energy. The sequence aims to prepare students for employment in a variety of fields, including manufacturing, design and renewable-energy systems inspection, according to the university's Web site.

Bass wrote that the program is attracting a lot of student interest and is currently filled to capacity, with 64 students. He added that "demand exists to fill twice this many seats."

"This is an exciting program that is attracting a unique set of students," Bass wrote. "And the quality of these students points to the importance society is now placing on energy security and our environment."

Bass added that companies are "very excited about our graduates." Neither mechanical nor electric engineering programs "fully address the engineering of energy-related systems," he said.

Other universities are also establishing similar programs. The State University of New York at Canton has established a four-year degree program in Alternative and Renewable Energy Systems. Illinois State University also has a similar program in renewable energy. Appalachian State University's program in Appropriate Technology focuses on technologies that are "ecologically and socially benign, affordable and often powered by renewable energy," according to its Web site.

Community colleges have also created programs in renewable energy. Lane Community College in Oregon trains renewable-energy technicians, and San Juan College in New Mexico has a program that teaches design and installation of solar-energy systems.

Brown does not currently offer a degree program in renewable energy engineering, but students are working to integrate sustainability into current classes. This semester, five students created a Group Independent Study Project titled "Integrating Energy Science and Education." Currently, they are "working with current topics in existing classes and building modules around them," said Kate Goldstein '08, who will attend University of Texas at Austin for graduate work in sustainable energy next fall.

The GISP explored the idea of creating a renewable energy concentration, as the engineering concentration currently offers only "normal engineering with environmental classes," Goldstein said.

But she said she and the other students eventually decided that altering the entire engineering curriculum was "too ambitious."

Christopher Bull, senior research engineer and adviser of the GISP, said it is "a better idea to incorporate these ideas into existing classes" because of the difficulty of creating an entire concentration. A renewable energy concentration would need to incorporate environmental studies, economics and sociology, he said, and would require heavy collaboration with other departments.

But he added that the development of a concentration is "a response to a demand," and "the longer and stronger the demand, the more likely a concentration will be created."

"We're seeing the start of that level of demand," Bull said.

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