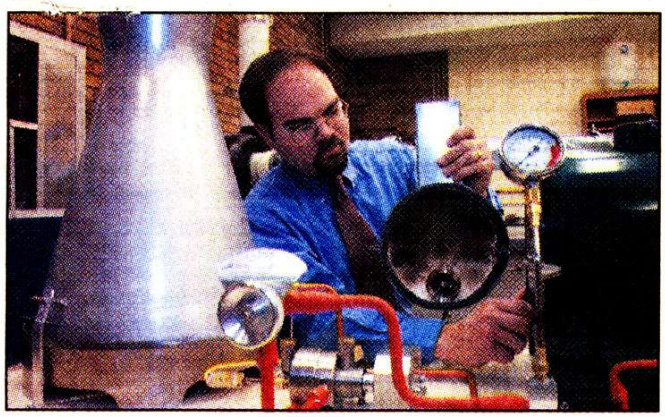
School to offer alternative energy systems course



The Oakland Press/CHARLIE CORTEZ

Andy Gerhart, assistant professor of mechanical engineering at Lawrence Technological University, looks over a tabletop power plant that will assist in the study of alternative energy sources.

By DAVE GROVES
Of The Oakland Press

SOUTHFIELD — This fall Lawrence Technological University will take its first step toward formalizing a decade-long interest in developing alternative energy systems.

In addition to continuing applied research it has conducted, the university has created a course focusing on hydrogen fuel cells, solar energy, wind and wave power generators and other alternative energy systems.

Introducing the course is part of a larger university effort to establish an associate's degree program, and administrators say a bachelor's degree program will soon follow.

"It's obvious that alternative

PLEASE SEE **COURSE**/A-12

COURSE

FROM **PAGE A-1**

NextEnergy corporation supporting effort with $100,000 grant

energy is an exploding area of interest and one we have to get involved in," said Laird Johnston, dean of the Engineering College.

Supporting the university's effort is a $100,000 grant from the nonprofit NextEnergy corporation, which provided similar grants to the University of Michigan in Ann Arbor, Wayne State University in Detroit and Kettering University in Flint.

"The awards are expected to result in a seamless, statewide curriculum in alternative energy between two-year and four-year schools," said Steven Arwood, chief operating officer for NextEnergy.

"The creation of a curriculum for technicians and engineers is a significant part of the infrastructure that will position the state of Michigan to take a leadership role in producing a workforce to continue (alternative energy) research and development."

Public concerns about the health of the environment, rising energy costs and U.S. reliance on fossil fuels have prompted renewed interest in alternative energy sources.

"There was a lot of talk about it during the '70s and it sort of died away," said Andy Gerhart, an assistant professor of mechanical engineering. "I think this time it's here to stay. It's something we have to address."

U.S. industry, including the locally centered automotive industry, is investing millions of dollars in response to public concerns.

"Students are coming back here from the co-op jobs saying this is what industry is doing," Gerhart said. "They want us to do more with it."

One thing students realize once they begin exploring the development of alternative energy systems is that solutions to the problems of a fossil fuel-driven society are not so easy to identify.

Recently hired to direct development of LTU's alternative energy degree programs, electrochemical expert Robert Fletcher said there are many intellectual challenges researchers face.

Hydrogen fuel cells are destroyed if they freeze and other alternative energy systems have yet to become efficient power generators. As such, it may be more accurate to describe alternative energy systems as evolving energy systems, Fletcher said.

"That's a good thing, though, because that's what engineers are all about — they love to solve problems," he noted. "And what better place to do it than in an academic environment?"

Fletcher expects he and other LTU professors to become part of a collaborative education and research effort statewide.

"I think the reason we can argue that it's not a competitive environment is that there is so much work to be done," he said. "We're all standing before an ocean and just spooning out little pieces of it."

Despite the lure of alternative energy's intellectual open spaces, both current and future LTU students will continue studying conventional energy systems and how they're used in modern society.

"It's virtually impossible to learn about alternative energy if you don't know about conventional energy," Gerhart said.

The university, for example, just accepted delivery of a propane-powered generator that students will use to study concepts such as fuel efficiency and emissions control. Knowledge they gain through hands-on experimentation will serve as a foundation on which to base research into alternative energy generation.

In addition to various engineering disciplines, departments throughout the university will contribute to focus on programs which touch on architecture, the physical sciences, the environment, politics, business and economics, societal issues and domestic and international law.

Given the broad perspective students receive, LTU administrators have no doubt that students with alternative energy program degrees will be highly recruited by firms in private industry.

"They've told us that's what they're looking for. There's no secret there," Johnston said.

OAKLAND PRESS 6-21-03