Regents approve pioneering nanosystems degree

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The Louisiana Board of Regents granted final approval Thursday for Louisiana Tech to offer the nanosystems engineering degree program, the first such program in the nation.
Tech's new Bachelor of Science degree program will be implemented this fall.
According to the National Nanotechnology Initiative -- a federal coordinator of multi-agency efforts in nanoscale science, engineering and technology -- about 20,000 researchers are at work in nanotechnology today, and 2 million workers will be needed within 15 years to support nanotechnology industries worldwide.

"Approval of this degree will give the state of Louisiana a chance to lead the nation in work force development for the new growth areas of our economy," said Dr. Stan Napper, dean of Tech's College of Engineering and Science. "There's definitely a national need that we are responding to."

He added that external resources are available to help fund nanotechnology programs, and NNI numbers bear him out.

Federal funding for nanotechnology research and development has increased from $116 million in 1997 to $961 million in 2004, according to the NNI, which also estimates that worldwide, government funding topped $2 billion in 2002.

"Government, and even more so industry, is funding the development of

these applications," Napper said. "The funding is evidence of the capability and interest. As there is an increase in both the application of nanotechnology and of funding, there's a need for trained scientists and engineers."

Napper described nanosystems engineering as the application of basic chemistry and physics to analysis and design of devices and systems with nanoscale (one-billionth of a meter) features.

He said products already featuring nanoscale properties include cosmetics and stain-free clothing. In the near future, he said, expect advanced drug-delivery systems, medical diagnostic tools, and solar cells in roofing tiles and siding.

"Nanosystems are going to be useful in a wide variety of industries, not just so-called nanotechnology companies," Napper said. "So it's important for us to train engineers to go into not only nanotechnology, but also traditional industries such as chemical processing, oil and gas, and manufacturing."

Listed in curriculum development plans are guidelines for new courses directed at nanosystems engineering majors. But there's also a strategy to integrate nanosystems into other engineering disciplines at Tech.

"We want all our students in all of our degree programs to be exposed to and have some knowledge of nanosystems," Napper said.

Dr. Ken Rea, vice president for academic affairs at Tech, commended Napper; Dr. Hisham Hegab, an associate professor of mechanical engineering, and others involved in devising the new program Rea called "timely and innovative."

"Approval of the new degree attests to the outstanding quality of the

faculty and their commitment to providing an excellent interdisciplinary undergraduate education," Rea said.

Tech President Dan Reneau said the program will tap the strength of the university's unique combination of lab resources, interdisciplinary research, and support programs.

"Louisiana Tech has always been at the forefront of technology and research, but with this new degree program we are poised to help revolutionize education, the economy, and the world of industry," he said.

Source: Louisiana Tech University