

New Energy Technology Major

Starting in Fall 2011, Creighton will offer a new major in Energy Technology. This major prepares students for cutting-edge fields, but is based on Creighton's roots in Ignatian pedagogy. In this Ignatian model, drawn from the Spiritual Exercises, teachers accompany learners in the pursuit of competence, conscience, and compassionate commitment. This model stresses personalized programs, active engagement of the student, and reflection on the experience.

PROGRAM GOAL

Creighton faculty consulted graduate schools and engineering firms and asked: what skills and abilities will a successful graduate have? First and foremost, employers want problem-solvers. Graduates should be lifelong learners, possess math and science competency, and be successful team workers. To meet these goals, this program is built on solving real problems within small groups, an effective method for teaching real-world technical and interpersonal skills.

FOUR NEW LABS

The new Energy Technology major will include four new labs, intended to encourage hands-on learning both indoors and outdoors. These labs are designed to reinforce mathematical and scientific concepts. The four labs cover electrical testing and measurement, computer simulations, design and rapid prototyping, and solid state chemistry / materials science.

COLLABORATION WITH OLIN

Creighton will collaborate with Franklin W. Olin College of Engineering, the #6 engineering school in the country. Olin is a pioneer in hands-on teaching, in a way that is very compatible with Ignatian pedagogy. However, the Creighton program will additionally add an emphasis on God's goodness manifested in the physical world.

FUNDING

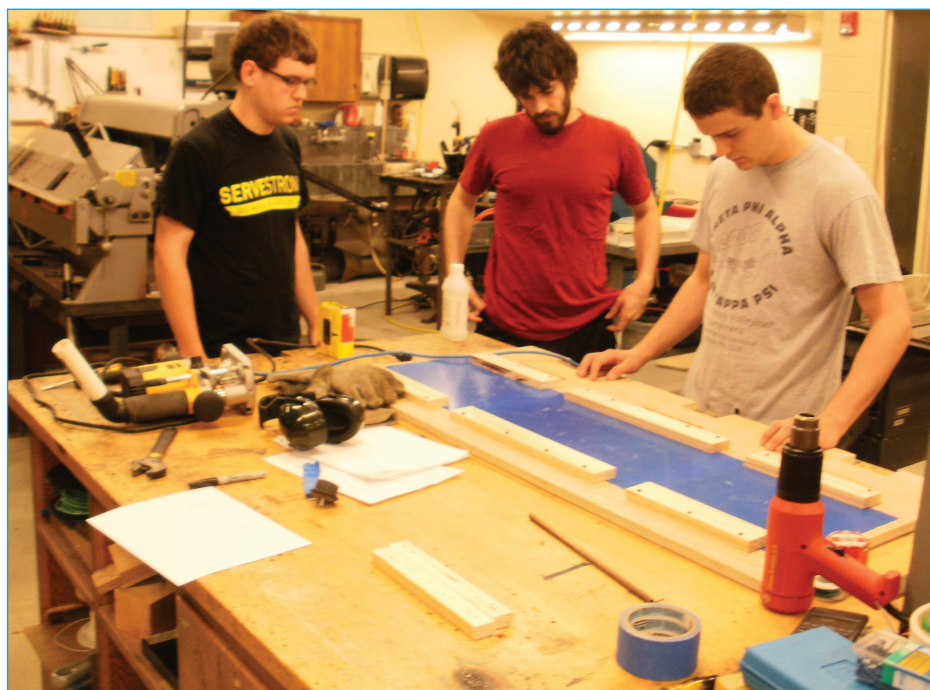
Primarily, this project is made possible by the Department of Energy, which has provided \$1.2 million for solar arrays and an additional \$1.2 million for curriculum development. The Omaha Public Power District contributed approximately \$250,000 for wind generators and additional solar capacity. Additional money for the development of educational materials was provided by Nebraska EPSCoR.



Top-right: An undergraduate physics student wires an inverter to the grid.

Right: Undergraduate students test solar cells on the roof of a campus building in summer 2009.

Below: Students build a frame for a display that will show production from three different types of solar panels.



Funding provided by:



U.S. DEPARTMENT OF
ENERGY

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