



# All Things Ignatian



## Energy Technology Program

*Presented by Tess Edmonds for the Energy Program*

### Background

The Energy Technology Program welcomed its first students in the Fall of 2011 to begin an interdisciplinary, project-based curriculum that embodies the Ignatian spirit in a deep, non-trivial way. We received two grants from the United States Department of Energy – one for on-campus renewable energy installations and one for curriculum development. In the summer of 2010, we invited guests from industry, high school students, engineering professors, and Creighton faculty from departments all across the College of Arts and Sciences to collaboratively design the ideal renewable energy technology program. The result was an incredibly innovative program that seeks to prepare undergraduate students to be highly effective in the dynamic, interdisciplinary fields of renewable energy and sustainability. There is a Bachelor of Science track for students heading towards careers in engineering and design and a Bachelor of Arts track for students interested in the policy, law, and business aspects of sustainable energy.



*Faculty, students, and guests collaborate to design the Energy Technology curriculum*

### Nurturing the Individual

The innovative educational model at the center of this program allows for a truly individualized learning experience. Project-based, interdisciplinary courses challenge the students to learn through doing and to cross traditional disciplinary boundaries to solve multifaceted environmental issues. Instructors take the role of facilitators or guides, and students are given substantial autonomy over the content and outcome of their projects. Discernment and reflection, so important to Ignatian pedagogy, are also central to this program. Students discern their personal learning goals before embarking upon a project and reflect upon the experience after its conclusion. This process of discernment aids students in becoming more perceptive, self-guided, conscientious individuals.

The Energy Technology Program recognizes that each student has unique strengths and weaknesses, and the curriculum encourages development in both areas. Risk-taking and creativity are emphasized, and students are encouraged to be bold in the way they approach and attempt to solve problems. These students will have the professional and personal skills to positively impact the world.



*Students present their projects: A modular solar-powered light made on the programs' 3D printers (left) and a gutter system to help remove melting snow from the solar panels (right)*

### Environmental Stewardship

Stewardship of the environment has become central to the mission of Creighton University and the wider Jesuit community. The Energy Technology Program has allowed the university to become more sustainable, with 120 kW of renewable energy generated on site, including the largest solar photovoltaic array in Nebraska. Not only have these technologies reduced Creighton's environmental footprint, but they have also become the foundation for a hands-on educational platform, allowing students to work and conduct research on professional systems. To date, we have installed solar photovoltaic and solar thermal panels, wind turbines, and a ground source heat pump. The presence of these technologies at Creighton exposes everyone in the community to them and concretely conveys Creighton's commitment to environmental responsibility.



*Students work together on the solar technology systems at Creighton*

*Sponsored by the Creighton University Jesuit Community, in association with the Deglman Center for Ignatian Spirituality.*