

Students, Alumni Combine for Third-World Service



Cathy Leslie '83, a Civil engineering grad, has also spent time in Nepal as a Peace Corps volunteer.

In many ways, she was ahead of her time. Working in developing countries, and serving in the Peace Corps, has become a lot more common lately.

Leslie is a senior engineering manager at an engineering consulting firm. But she also serves as executive director of Engineers Without Borders.

This non-profit organization brings together students, faculty, and professional engineers to build water, wastewater, sanitation, energy, and shelter systems in developing countries.

The bottom line: encouraging students to use their engineering or science degree to serve society.

"At the core, these projects are about the people in communities," Leslie said. "Not a government, not a region, not a corporation—but the child who laughs as she stands under running water for the first time in her life."

Designing Seniors

Michigan Tech students have a wide range of options to put the "service in service learning.

Civil and environmental engineering students can choose an international senior design project working on projects aimed at community flood control, fundamental water supply and treatment, and school classrooms.

Graduate students in several curricula can choose the Peace Corps Master's International program, which will earn them a Michigan Tech master's degree after some course work and a two-year stint as a Peace Corps volunteer.

Linda Phillips '77, an instructor in civil and environmental engineering, says 83 Michigan Tech students have participated in an international senior design project since 2001.



Phillips has now taken the concept one step farther, though, involving alumni and practicing engineers.

A group traveled to Rancho Viejo, Dominican Republic, to build and install a water distribution system powered by a solar pump.

Ten undergraduates were assisted by local villagers and Matt Niskanen '00, who holds both bachelor's and master's degrees from Tech in civil engineering.



"Howard Barikmo '56 read an article in a previous issue of the alumni magazine and offered his experience and services," Phillips said. "He works for the Photovoltaic Testing Laboratory at Arizona State University and contributed recently tested solar panels for the Dominican Republic project."



Students also went to Bolivia to resolve neighborhood storm flooding and sanitary waste problems at impoverished schools. Mike Paddock '87 and Max Schmiede '73 donated their time and experience to guide the students. Both work for CH2M Hill in Milwaukee.

Once the schools are built, Michigan Tech alumni continue to be involved. Civil engineering graduate Tony Schwaller '93 now teaches physics at Houghton High School. As part of his master's in education program at Michigan Tech, he took the international senior design course and spent two weeks teaching junior and senior high school students in the Bolivian jungle.

Not coincidentally, the school's director is Peter Hudy '88, who holds a Michigan Tech biology degree.

"The class is designed to emulate work of a design/build firm in industry," Phillips said. "It provides a meaningful class experience that combines field construction with an engineering design project in the developing world."

For most students, the class also provides a life-changing experience.

"Not a day goes by that I do not think about, and at times worry about, the projects that I have been so fortunate to participate in," said Tim Martin '04.



Peace Corps Alliance

Under Michigan Tech's Peace Corps Master's International programs, students combine master's degree course work with two years of service to the Peace Corps. Over 50 graduate students are now enrolled.

The grandmother of these programs is the Loret Miller Ruppe Master's International Program in forest resources and environmental science, which accepted its first students in 1996. The late Ruppe lived in Houghton for many years and was director of the Peace Corps from 1981-1989.

Now, Tech also offers the program in civil engineering, environmental engineering, and geology and geological engineering. A Peace Corps Fellows program in forestry and environmental policy also allows returned volunteers to obtain their MS degrees.



These are the only engineering programs of this type in the US, according to Jim Mihelcic, professor of civil and environmental engineering and one of the two directors of the program.

"We would like to expand our initiatives to involve more students and alumni," Mihelcic said. "But, more importantly, to assist and empower a greater segment of the global population that is currently in need of sustainable engineering solutions."

The civil and environmental engineering department has packaged the master's and senior design programs into a Global Sustainable

Development Initiative. The aim: to nurture and educate students to value sustainable development engineering.

For more information see:

www.cee.mtu.edu/projects

peacecorps.mtu.edu

www.cee.mtu.edu/peacecorps

www.geohazards.mtu.edu

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