Service opportunities are one of the most memorable experiences many students have during their college career. Students may serve in Philadelphia and surrounding communities, in areas of need throughout the country, or, on the other side of the world.

Mechanical Engineering junior Philip Arets '13 is among those students who traveled internationally. Seeking an opportunity to engage his interest in alternate energy, clean technology and sustainable solutions to nature’s challenges, Philip traveled to Waslala, Nicaragua with his team to address water supply issues. Often, students found they needed to actually create water supply systems that didn’t exist. “I was surprised by the number of obstacles that stood between a community and the construction of what would seem to be a simple and small scale water system,” says Philip. His teammates in Waslala were Katherine Duggan ChE '13, James J. Costabile ME '13, Ellen Knapp ChE '13, and Christine McQuade ChE '13. James O’Brien, Assistant Professor of Mechanical Engineering, led the group. Another engineering student who discovered both the rewards and challenges of international service was Fernando Rabell CE '13. Seeking to “change the scope” through which he viewed things, Fernando traveled to Bang Lung, Cambodia, with Sam Olson ME '14, Hillary Guardo ME '13, Dr. Clayton, Assistant Professor of Mechanical Engineering, and Jordan Ermilio ME '98, MSWRE '06, Director of Service Learning. In this remote village, the team spent time at the Caramanico School, built by Anne and Thomas Caramanico PE, CE '71, MSCE ’83. They immersed themselves in the culture, identified needs (among them, a preschool), and worked with the community to determine how they might make a difference. Fernando was inspired to follow up on this experience by making the village’s desired preschool the focus of his senior capstone project.
A fortuitous encounter on the flight to Cambodia resulted in an exciting opportunity for Fernando’s teammate Hillary Guardo. On that flight she met Len Austin, head of the Golden West Humanitarian Foundation, which was established to address the critical issue of the country’s landmines and unexploded ordinances (UXOs). He invited the group to the Foundation’s test facility, and a relationship was quickly established. Excited by what she learned during that visit, and with funding from Golden West, Hillary chose to create for her senior design project a cost-effective, simply designed humanitarian robotics device for the clearing of UXOs.

College of Engineering students also are making a difference in Ifugao province, Philippines. Kyle Johnson CEE ’13 spent his summer there, working on a solid waste management plan for the small rural town of Kiangan. Like Philip, he learned that some of the challenges related to these projects have nothing to do with engineering. “I was surprised to see how much politics were involved in actually getting things done. The budgeting and financing is incredibly challenging,” he says. Since returning from his trip, Kyle has developed an independent study project working with Dr. Komlos, Assistant Professor of Civil and Environmental Engineering, to design an engineered landfill for the province. In addition to providing him with a direction for his studies and career, Kyle admits that, “Because of the trip, I’m paying better attention in several of my courses, knowing that what I’m learning in the classroom has applications that I’ve seen in action.”

For more about the service program overall visit www.engineering.villanova.edu.