



Commitment to Community Engagement

COLLEGE OF ENGINEERING

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What community engagement means for the College of Engineering

The College of Engineering at the University of Delaware traces its origins to 1837, when a class in “surveying and leveling” was first taught at Newark College. The College is now home to seven academic departments and three degree programs devoted to building a community of “solution providers” committed to addressing problems associated with sustainability, energy, health care, the environment, etc., with the goal of expanding the frontiers of knowledge for the overall benefit of our global society.

For us, the term “community engagement” describes a purposeful interaction between institutions of higher education and the broader surrounding communities (local, regional/state, national, global), in the form of a partnership and a reciprocal exchange of knowledge and resources for mutual benefit. The College is committed to substantive and sustainable engagement with communities, and values the opportunity to explore how our core activities of teaching, research and service can be leveraged for mutual benefit. We believe that the ultimate goal of community engagement is to connect College assets and resources with those of the public and private sectors in order to enrich curriculum, scholarship, research and creativity, in a manner that will in turn be beneficial to the public and private sectors. We support the UD Campus goal of preparing educated and engaged citizens, enhancing their understanding and appreciation for democratic values, civic and societal responsibility and of strengthening their personal commitment to the public good. The quality of engagement activities in these community partnerships is more important to the College than mere quantity. Consequently, the College values longer- term community engagement opportunities with potential for significant (and measurable) impact.

We believe that our College exists to cultivate learning, develop knowledge and foster the free exchange of ideas in an increasingly diverse and complex, global marketplace. COE faculty, staff and students are involved in generating technology solutions to benefit society and enhance the human experience. Often these solutions are informed by nuanced discussions related to public policy, cultural sensitivity, economic impact, human health and quality of life. As for student development, our community engagement activities allow students to become aware of how their technical skills can be applied for service and outreach while simultaneously exposing these students to possible careers in nonprofit organizations, teaching, etc. We look for ways to increase the scope of our community engagement each year, with the result that our College now has many projects, programs and activities that connect us to the larger community in support of the broader engagement agenda of the institution. We are committed to encouraging and supporting our faculty, students and staff to expand and intensify this connection to, and cooperation with, our diverse community partners.

As a concrete demonstration of the importance of community engagement to our College, we recently created the “Dean’s Award for Excellence in Service and Community Engagement Award,” which is given annually to a faculty member who demonstrates true excellence in service to the UD, national and international communities, and whose engagement with these communities has shown clear evidence of sustained impact. This recognition carries with it a \$5,000 cash award to be used at the discretion of the recipient. To date, the award has been given three times.

A sampling of College projects, programs and activities that enable connections to the larger community now follows:

Mechanical Engineering

The Department of Mechanical Engineering's community engagement efforts are in two strategic areas:

- The K–12 educational community, with programs ranging from K–12 student engagement and recruitment, to teacher professional development around pre- college engineering curriculum;
- Empowering undergraduate and graduate students—as well as faculty—to provide content knowledge to community partners in need of engineering expertise, e.g., Goodwill of Delmarva and International Paralympics.

Computer and Information Science

The Department of Computer and Information Science's engagement primarily involves providing opportunities for students to develop software for clients in the local community. For example,

- In CISC275: Introduction to Software Engineering, students learn how to work through an iterative process of software design, implementation, testing and deployment and engage in projects that will be used in the real world, in partnership with clients such as the Delaware National Estuarine Research Reserve.
- CISC357: Field Experiences in Computer Science, designed to provide students “field experiences,” has, for example, brought educational games into the Chester School District and has students going out into the community to teach computer science in elementary schools.

Civil and Environmental Engineering

The Department of Civil and Environmental Engineering is involved in the following activities:

- Investigation of parking issues in the city of Wilmington, as part of a graduate course in Urban Transportation Systems.
- Facilitation of “Circuit Rider” effort for Delaware. The “Circuit Rider” program provides support for small towns and municipalities in Delaware for a host of technical, regulatory, procedural and policy areas of transportation.
- Participation in UD's chapter of Engineers Without Borders.
- Development of asset management software tools for local government.
- Sponsorship of a Fulbright visiting scholar summer program for scholars from Iraq.

Chemical and Biomolecular Engineering

The Department of Chemical and Biomolecular Engineering is involved in the following activities:

- Alternative Spring Break and Engineers Without Borders, where students provide services to the less fortunate nationally and internationally, respectively;
 - Design projects in which senior students developed an ammonia decomposition process to be used for removal of ammonia from chicken houses in our region;
 - Teaching (by some department faculty) at the African University of Science and Technology (AUST) in Nigeria, part of the Nelson Mandela Institutions Network of five high-level universities in sub-Saharan Africa (SSA), whose primary objective is to provide graduate education for a new generation of scientists and engineers who will subsequently provide leadership in academia and industry for their subcontinent.
 - Fundraising by the AIChE Student Chapter for students in the 4Youth program, a program aimed at educating underprivileged youth in the Wilmington area through after-school programs.
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