



College of Engineering, Technology, and Architecture

UNIVERSITY OF HARTFORD

As one of seven schools and colleges that compose the University of Hartford, the College of Engineering, Technology, and Architecture (CETA) actively participates in the University's project of being "a private university with a public purpose." The undergraduate and graduate students from our departments and twelve programs all work, some beginning as early as their freshman year, on real-world projects brought to us by governments and businesses, including United Technologies Corporation and NASA.

Many of those projects come to CETA through our Engineering Applications Center (EAC) by which we partner with industry on applied research. The EAC enables regional businesses to introduce leading-edge technology and processes into their products and participate in symposia, certificate programs, and in-house training. Collaboration with industry is at the core of the practice-based nature of our curricula.

The Center for Integrated Design (CID) offers opportunities for our students beyond the classroom. Students majoring in architecture and engineering, business in the Barney School of Business, and visual communication design in the Hartford Art School, collaborate on issues brought to the CID by governments and public and private entities, including K-12 schools and other non-profits. For example, the CID investigated how to ensure that the town center of Bloomfield, a local community, remains the cultural hub.

Still another major means of participating in cross-disciplinary work arises in the Digital Health Initiative (DHI), a collaboration of CETA engineers and students with physical therapists from the College of Education, Nursing, and Health Professions (ENHP), computer scientists from the College of Arts & Sciences, and others on campus. DHI, in partnership with major health companies and healthcare providers, develop monitoring technologies and deliver cost effective healthcare to an aging population. Technologies, such as monitors that measure and report the force difference between healthy and damaged knees, will increase in importance particularly as the Boomer generation ages.

All of the projects our students work on are integrated into the curricula offered in our departments: Civil, Environmental, and Biomedical Engineering; Electrical and Computer Engineering (which includes electrical and computer engineering technology programs along with a four-year audio engineering technology program);

Mechanical Engineering (which includes mechanical engineering technology and an acoustical engineering and music program that requires a musical education at the Hartt School of Music); and Architecture (which includes an engineering technology program along with the design track and one of two NAAB-accredited M.Arch programs in Connecticut, the other being at Yale University). All of the departments offer opportunities for real-world problem solving through senior capstone projects and the like.

The education we offer our students is also augmented by the various professional organizations we offer: American Institute of Architecture Students, Formula Society of Automotive Engineers, Institute of Electronic and Electrical Engineers, and many others. Such organizations give students a view beyond the classroom and help them bridge college and professional careers.

With these organizations and an outstanding and active faculty and staff, we accomplish our twin goals of educating our students and participating as a citizen in our region. For more information about CETA, EAC, CID, DHI, and our other organizations and programs, please visit our website at uhaweb.hartford.edu/ceta, our blog at cetablog.blogspot.com, or call 860.768.4446.



University of Hartford, Hawk

SOUTH DAKOTA



SCHOOL OF MINES
& TECHNOLOGY

The South Dakota School of Mines and Technology (SDSM&T), located in Rapid City at the base of the Black Hills, offers a comprehensive spectrum of degrees focused on science and engineering. The Department of Materials and Metallurgical Engineering offers a B.S. degree in Metallurgical Engineering and M.S. and PhD degrees in Materials and Metallurgical Engineering. The undergraduate degree program has approximately 80 students enrolled. Program features include a National Science Foundation Research Experiences for Undergraduates (REU) Site called Back to the Future! As the name implies, the site focuses upon research projects that are both cutting-edge and of historical significance. For example, students conduct advanced materials research on aspects of friction stir processing as well as topics of historical significance, such as the corrosion of the USS Arizona. Students selected for the 10-week summer program come from both SDSM&T and other universities. The Back to the Future! program also includes exciting extracurricular activities associated with the beautiful Black Hills area, including day-trips to Mount Rushmore, Crazy Horse Memorial, the Badlands, and Devils Tower. For more details on this program, contact Dr. Michael West (Michael.West@sdsmt.edu), REU Site Director.



The mechanical engineering curriculum at Rose-Hulman Institute of Technology is designed to prepare students for productive careers in industry, government, education, and private consulting, as well as for graduate study. Thus it is based on the fundamental principles of science and engineering. These principles provide a strong foundation that enables students to apply what they have learned to the complex technological problems of today and to teach themselves the new technologies of tomorrow. The strength of the program and department consists of twenty-five faculty and four staff who serve over 550 undergraduates. These teachers provide a dynamic and innovative student learning environment to maintain and increase technical competence in a rapidly changing world. Over four years, the Institute has invested over \$800,000 in improving and updating laboratory equipment and facilities. These investments contribute to the program's national recognition and number one ranking for eleven consecutive years by U.S. News & World Report for programs that offer the Bachelors or the Masters degree as the top degree in engineering. Popular competitive programs as EcoCar - the Next Challenge; Rose-Hulman Efficient Vehicle; Human Powered Vehicle; Team Rose Motor Sports; and Design, Build, and Fly, continue to stimulate interest, excitement and success throughout the department and Institute.