Each year, more than 100 leading manufacturing companies, pharmaceutical and medical firms, consulting practices, utilities as well as local, state and federal government agencies partner with the UConn School of Engineering through Senior Design Projects. These are cost-effective ways to work with Engineering seniors on a company project—a technical or design challenge or a novel idea—without a large investment.

Every Senior Design Project is a two-semester course required for all School of Engineering seniors to graduate. Having successfully completed most of the Engineering curriculum, they must solve technical problems for industry sponsors in a real-world company. Each team of 3-5 seniors is mentored through the project by an Engineering professor collaborating with an engineer from the company.

Result: Our industry partners gain first-hand experience of teaming up with potential employees with no commitment other than to help the project succeed. Our students learn how to work collaboratively in a corporate setting, while producing professional periodic reports on their strategy, techniques and progress.

Students apply the engineering skills they have acquired: the principles of design, how ethics affect engineering decisions, how professionals communicate ideas and the day-to-day implications of intellectual property. They begin by researching the problem, brainstorming a range of solutions, and traveling to the sponsor company site to learn more about the company and the project. As their projects take form, student teams maintain contact with their industrial and faculty mentors, hold meetings, write formal documentation, and make presentations on their work. Throughout the project, each team synthesizes design know-how, judgment, technical skills, analysis, creativity and innovation to design, optimize and manufacture a prototype model, or to perform product simulations. Students submit written reports at intervals throughout the two-semester project timeline, and present oral presentations at the project’s conclusion. Reports may become the sole property of the industry sponsor and be excluded from public presentations. Historically about 33% of completed projects are used in company products or processes.

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Benefits to Sponsors

Value: For a modest fee, a small team of “almost engineers” will partner with you, report to you, supervised by both you and our faculty. As they have real responsibilities resolving technical and design challenges for you, it costs a fraction what you would pay full-time employees for the same type of project.

Tackle a Challenge or Explore a New Idea: Senior design project is a cost-effective way for companies to tackle a technical challenge or explore new designs or novel ideas without the large investment typically associated with new product development. Our sought-after students and faculty will assist you to research and analyze the problem, conceptualize alternate solutions, design and refine a device or method, construct a working prototype, etc.

Strategic Recruiting – Avoid “Skills Gap” and “Gray Tsunami”

Challenges: The program can provide a pipeline of talent to fill growing numbers of high-tech vacancies. Many companies are expecting a large percentage of their most experienced employees to retire soon.

Senior Design Students are Potential Employees: Sponsors have the opportunity to collaborate with, cultivate and evaluate undergraduate students as prospective employees. Senior Design Projects provide nine months to observe students’ performance and how they fit your company’s culture. Senior Design Projects can help you make successful hiring decisions. As a Senior Design sponsor you can build a relationship with a student - before other employers. Once they start looking for job, they can work for any employer anywhere.

Access to UConn’s Unique Resources: Senior Design Projects also give you access to UConn faculty, who have expertise and state-of-the-art laboratories and equipment.

Visibility: As student teams and faculty gain exposure to your company’s resources, products/processes and culture, they will share their impressions with peers and spread awareness of your organization.

Benefits to Students

Application of Learned Engineering Skills: Senior Design Projects allow students to sharpen learned engineering skills in a real-world environment. These include: problem analysis, design analysis, experimentation, use of leading CAD and analysis software, innovation, communication skills, and teamwork, often within an interdisciplinary team.

Improved Marketability: By having real-world engineer responsibilities for two semesters, students improve their marketability in the job marketplace.

Partner with a Potential Employer: Throughout the two-semester experience, students are exposed to products, engineering practices and company culture, allowing them to assess the sponsor as a prospective employer.

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Type of Projects

- Research and analyze the problem
- Conceptualize new or alternate solutions
- Design or refine a device or method
- Construct a working prototype
- Synthesize design know-how
- Optimize and manufacture a prototype model
- Perform product simulations

Senior Design Leaders

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