

Department of Mechanical Engineering

Senior Design – *Call for Projects*

Purpose

The Senior Design Staff Team would like to offer you the opportunity to sponsor a project that addresses your business needs, and which will provide students with the experience of participating in a “real” project to design and develop a new or improved product or process.

Needs

We assume that there are many opportunities, or needs, to improve some aspect of your business, and that some of these needs go un-met do to lack of human resources. Needs might include a new or improved product, process, or quality control system. You may not have raised any of the needs to the level of ‘business critical’ yet, but would welcome the chance to develop a possible solution to the needs with a “fresh look”, and without committing significant resources. We also assume that you have an interest in formally renewing, or adding to, your human resources, and would therefore, benefit from having close access to a group of engineering seniors.

Our desire is to teach our students to be excellent engineers and business people through the experience of working on a real project with industry professionals.

Sponsoring a Project

The Mechanical Engineering Department at the University of Delaware requires students to demonstrate ability to apply their rigorous and extensive learning in the engineering sciences and the design/development process by executing a design project that has been defined by an Industrial sponsor. A project is executed in a single semester (September - December) by teams of three to five students with diverse backgrounds and capability. Student teams are supported by a team of faculty members, and industry consultants; and they have access to the Department’s research facilities. They apply their creativity; time (nominal total time for team of four is 1200 hours), and energy in a way that is focused on the business needs provided by their sponsor. Sponsors simply need to have an idea that has promise, but needs to be taken to the next level. Sponsors should also be willing to spend a minimum, but sufficient amount of time with the student teams to ensure that their effort continues to be directed toward their needs. In addition, sponsors are asked to support the undergraduate education program by providing a \$5,000 sustaining fee; and by supplying any resources that are not available at the University, including funds to purchase components that are deemed necessary to demonstrate a prototype of their idea. A picture of course format: timing and deliverables is included below.

Value

The primary values that a business gains by sponsorship of a senior design project are: 1) uncovering the business potential of that “back burner” idea that has interesting, but undefined potential; and 2) intimate awareness of student potential as prospective employees. Other benefits for sponsors can include: good will, and additional marketing/exposure with students and the community at large; and connection to advanced research and technology being carried out at the University of Delaware.

Next Step

Please indicate your interest by contacting me directly (below), and please visit our web site at <http://www.me.udel.edu/> to learn more about the Mechanical Engineering Department at the University of Delaware

Nate Cloud, PE

Project-Sponsor Coordinator

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Senior Design

MEEG401 - Fall Semester

Course begins

Final Presentations

Deliverables

- Customers & Needs
- Scope definition
- Technology/Science
- Key metrics
- Technology & Benchmarking
- Concept generation & selection
- Project Plan
- Concept Design
- Engineering Basis
- Plan update
- Proof of concept
- Prototype
- Application Plan

