

Objectives of the Program

- ❖ To increase industry/university collaboration within the context of a specific product need.
- ❖ To introduce students to current “best practices” in industry for design and manufacturing.
- ❖ To help students grow professionally by providing a focus for developing teamwork, communication, and project management skills.

Benefits to the Company

- ❖ Interact with undergraduate students, graduate teaching assistants, and mechanical engineering faculty with expertise in your field.
- ❖ Observe potential student hires that could help meet future recruitment needs.
- ❖ Provide students with a first-hand view of corporate life, thereby increasing future job retention.
- ❖ Receive technical reports, drawings/schematics, and a working prototype produced by your student team.

Role of the Company

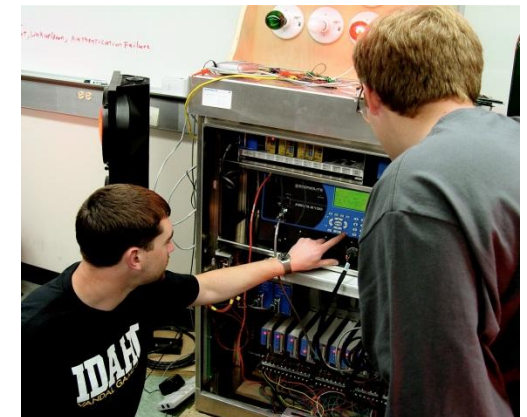
- ❖ Supply an engineering project that students can design, prototype, and test in about 1,000 person-hours of effort over a period of 8 months.
- ❖ Provide feedback to the students.
- ❖ Offer an appropriate financial donation to support the project.
- ❖ Attend final project presentation during the Design Expo held in April on the University of Idaho Moscow Campus.
- ❖ Offer advice for course improvement.

Characteristics of a Good Project

- ❖ Has support of an industrial contractor interested in the project and in working with the students.
- ❖ Has significant technical content appropriate for engineering seniors.
- ❖ Is a stand-alone, non-critical-path product that meets a specific need.
- ❖ Requires little or no research, i.e. uses existing technology.
- ❖ Results in a prototype that can be manufactured in UI shops and labs.

Project Scope and Budgeting

- ❖ Projects need to be identified, scoped, and budgeted by August 1.
- ❖ Funds are required to support travel to the company by all team members, instructor, and mentor for a kick-off customer interview and for progress reports throughout the year.
- ❖ Funds are needed for all raw materials, purchased components, and consumables associated with class presentations.
- ❖ A contribution is necessary for shop and lab equipment usage that goes toward annual upkeep, regardless of project size or complexity.
- ❖ Projects with budgets less than \$4000 are usually too small to meet class objectives; project budgets exceeding \$15,000 may be too large.



Recent Projects

Atmospheric Descent Probe
Battery Box Environmental Control
Electrosurgical Test Apparatus
Hot Cell End Effector
Hybrid Electric Racecar
Impact Tester for Handhelds
Miniature Shock Tester
Interferometer Alignment System
Intelligent Chess Board
Small Scale Hydro Optimization
Tensegrity Robot
Traffic Controller Customization
Phase Shifting Tap Changer
Water Flume Instrument Carriage
Water Filter for Rural Africa

Recent Sponsors

Advanced Input Systems
Arthrocare
Bechtel
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Blue Water Technologies
Boeing Company
Cypress
Idaho National Laboratory
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NIATT
Office of Naval Research
Power Engineers
Sandia National Laboratory
Schweitzer Engineering Laboratories
US Department of Agriculture



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Archive of past projects is at
<http://seniordesign.engr.uidaho.edu>

Capstone Design at the University of Idaho

...A **community** of design and fabrication professionals in Agricultural, Biological, Computer, Electrical, and Mechanical Engineering as well as Computer Science



...A **collaboration** with external clients on authentic product realization as well as process realization projects