



Capstone Design: What Potential Sponsors Need to Know about IE 4670

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With the growing popularity of Clemson's Bachelor of Science in Industrial Engineering (IE) degree, the number of undergraduates enrolled in IE at Clemson has doubled in the last five years. In order to maintain proper class sizes, the department has recently begun to offer most required courses in both fall and spring semesters. This, in turn, has created the need for company sponsors of our Capstone Design course (IE 4670) in both fall and spring semesters.

Students in IE 4670 are typically graduating seniors who have completed all other required IE courses. The students spend an entire semester working on an industry-motivated project. Unlike other textbook-based courses, IE 4670 ("Capstone" or "Design") brings together two teams of four undergraduate students each to "compete" against one another on the same industry project—a project requiring the interpretation, application, and understanding of all IE tools and techniques that the students have acquired during their undergraduate studies. The teams are determined by the instructor and are not based on student preferences, but rather student abilities, aptitudes, and experience.

As the course coordinator, I am responsible for securing projects for my students, every semester. I reach out to former, current, and potential project sponsors 3-4 months prior to the beginning of the next semester to determine if the company is interested and able to sponsor a Design project. Iterative conversations result in a single paragraph description of the proposed project that will be provided to the two competing Design teams on the first day of class. My approach to the Design course has been used to successfully complete and deliver over 200 Capstone design projects at two different universities.

Everything is full speed ahead on the first day of the course, as the students must contact their sponsoring organization to arrange an initial site visit, process overview, and any other necessary steps to begin to develop each team's understanding of the problem under study. The minimum set of key course deliverables for both the project sponsor and instructor will include the following:

- Project Proposal: description of the sponsoring organization, motivation of the problem, project objectives, proposed plan of attack (including scheduling, deliverables), and justification of project suitability
- Mid-Project Update: discussion and identification of any changes, additions, or deletions from Project Proposal, along with progress update from the team
- Executive Summary: maximum two-page document describing tasks, activities, conclusions, and recommendations, suitable for actionable decision making by the sponsor
- Final Project Presentation: formal, business attire presentation to faculty and sponsoring organization of the project's findings, recommendations, and economic benefit. After both teams have presented, the sponsoring organization proclaims who "won" the competition and why (this has no impact on the students' grades)

Each two-team project costs **\$7,500**. The company sponsor will be invoiced Net-30 at a mutually agreeable time during the project's semester, but no later than 30 days prior to date of the final project presentation. Companies can (and have) sponsored more than one project in a semester.

Please contact me either by phone or e-mail (information provided above) if you are interested in sponsoring a project in IE at Clemson. I am available to meet in person or by phone at your convenience.