

WHAT IS A CAPSTONE PROJECT?

The capstone program matches student teams with partners from industry, providing real problems from industry for teams to solve.

Typical projects are existing problems or initiatives which companies do not have time or resources to tackle alone. Ideally, these are problems that are important to solve, but not critical to the core business operations of the industry partner or time constrained to be solved sooner than in the next 12 months.

Projects can be discipline-specific, or interdisciplinary in scope. Disciplines include:

- Chemical
- Civil
- Electrical & Computer (ECE)
- Environmental
- Industrial
- Materials
- Mechanical
- Mineral Resource

WHY SPONSOR A PROJECT?

- Explore the application of new technologies with low cost and low risk
- Work with creative and energetic students who may make great employees in the future
- Draw from faculty expertise and take advantage of Dalhousie's in-house resources
- Provide an enriching opportunity for students to enhance their educational experience
- Give back to the community and assist the development of future engineers

PROJECT DEFINITION & SCOPE

- The project sponsor identifies the project: it is best to define a project in terms of a problem that needs to be solved. Projects that are simply the implementation of a well-developed idea, with little flexibility to go through all stages of the design process are not ideal.
- Teams work with the sponsor to determine scope of the project, and specific deliverables.

STUDENT TEAMS

- Students normally work in teams of three to four.
- All teams have at least one faculty advisor who meets regularly (weekly or biweekly) with student teams throughout the year
- Students review all potential projects and identify their preferences - so projects are usually matched up well with student interest. The program manager makes the final assignments.
- We sometimes receive more projects than we have student teams, so unfortunately there is no guarantee that a submitted project will be undertaken.

PROJECT TIMELINE

- May to Aug – Project Sponsors submit proposals for review by Capstone Instructors
- Projects start in early September and must be completed by early April.
- *(ECE offers two capstone streams: one starting in September and the other running projects from January – December of each year)*
- Oct/Nov – Project Definition/Scope/Requirements, Design Review
- Dec – Interim Reports, Project Presentations



PROJECT TIMELINE (CONTINUED)

- Jan/Feb – Design Review(s)
- April – Dal Engineering Capstone Conference, Final Reports, Final Project Presentations

PROJECT SPONSOR INVOLVEMENT

- Sponsors must provide at least one contact person who will communicate regularly with and provide technical support, data or contact with other employees to the student team.
- Student availability is different by discipline, but they will be on site at least once a week at the onset of their project. Onsite time may increase or decrease over the course of the project timeline, depending on the project requirements.
- Site visits may range from 1-2 hours to a full day. This is to allow students time to observe the operation, collect data, speak to stakeholders and develop a solid understanding of the context of their design problem.
- Time required from the project sponsor will vary according to the stages of the project, but will usually average 1-2 hours per week. Participation from other onsite staff may also be required. Sponsors also participate through site visits, design reviews, interim and final reports and presentations.
- At certain times in the project, students may opt to work at Dalhousie in our labs or workshops if appropriate.

COST TO PROJECT SPONSORS

- Project costs are different for each discipline (may include software, licenses, materials, machinery & lab testing)
- No charge for students' or faculty time, nor for the use of our facilities for project work.

NON-DISCLOSURE OF INFORMATION & INTELLECTUAL PROPERTY

- Our students are required to present their projects at the annual Dalhousie Engineering Capstone Conference (DECC), which is open to the public. The event involves a poster exposition as well as formal presentations by each student team. Many disciplines also have formal oral presentation days in December.
- The student team can remove direct references to any confidential information that was provided by the sponsor, but should not be required to remove information that the students themselves discovered/researched/created, where possible.
- Prior to the start of any project, the sponsor shall indicate to the University any nondisclosure issues.
- Intellectual property generated from student projects may be assigned to the sponsor company. The student and sponsor must sign an Intellectual Property Agreement assigning IP rights to the sponsor at the start of the project.

I'M INTERESTED! WHAT NEXT?

- Submit your project proposal (a few lines to describe company/organization, a few lines to describe the problem) to capstone@dal.ca
- Each discipline may have additional project proposal forms to be completed
- Some projects will require Project Agreements to be signed