



Mechanical Engineering Capstone Design

The Department of Mechanical and Industrial Engineering continues its Capstone Design course in 2019-20. Students will apply their skills to real world, externally sourced engineering design projects. This document invites organizations to state their mechanical engineering design needs.

What We Offer To Partner Organizations

- A team of three or four 4th-year mechanical engineering students to address your design need
- Approximately 260 hours of coursework per student, from September 2019 to April 2020
- A faculty Supervisor for each project
- Faculty and staff who will handle the course and logistical issues

What We Need From Partner Organizations

- Real world needs with high upside value and low downside risk
- Timely access to the information and resources needed to address your Statement of Need
- Approximately 1-2 hours per week to support each of your student teams
- Occasional feedback on student and team performance
- Participation Fee: A sponsorship fee of \$2500 (cash and in-kind) is required from each client to support the capstone project(s) provided by the client and the operational expenses for the course

For More Information

Please contact Prof. Kamran Behdinan, NSERC Chair in “Multidisciplinary Engineering Design” and Capstone Coordinator at behdinan@mie.utoronto.ca

Key Dates

- June 28, 2019 – Statements of Need (SONs) submitted by partner organizations
- August 16, 2019 – Students matched to Client projects
- April 2020 – Capstone Design Showcase (TBD)

Partner Organization Statement of Need

This Statement of Need (SON) provides students and faculty with a high level overview of your Organization's need. The SON will be used to match your design challenge with students and faculty members in the Mechanical Engineering Program. The best SONs describe the needs that have the potential for a high upside value, where the downside risks are minimal, and provide both the students and your organization with a rich learning opportunity. The Capstone administrators will work with your organization to produce an accurate and compelling SON to iteratively refine it into formal Engineering Requirements. **Client Participation Fee of \$2,500.00 cash and in-kind will be provided by the Organization (Signature below).**

Organization Information

Organization: _____ Contact: _____
Title: _____ Email: _____
Signature _____

Statement of Need (attach additional sheets if necessary)

1. Background:

2. Project Description:

3. In this capstone project, the client expects the team to design the following:

NDA Required: Yes No

Statement of Value to the Organization

Competencies

Please check all of the Mechanical Engineering competencies that you anticipate being relevant to your organization's need.

- | | | | |
|------------------------------------------|-------------------------------------------------|-------------------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Fluid Dynamics | <input type="checkbox"/> Heat and Mass Transfer | <input type="checkbox"/> Energy and Environment | <input type="checkbox"/> Combustion |
| <input type="checkbox"/> Solid Mechanics | <input type="checkbox"/> Dynamics and Vibration | <input type="checkbox"/> Machine Design | <input type="checkbox"/> Manufacturing Structures |
| <input type="checkbox"/> Control Systems | <input type="checkbox"/> Robotics | <input type="checkbox"/> Mechatronics | <input type="checkbox"/> Biomechanics |