



Mechanical Engineering Capstone Design

The Department of Mechanical and Industrial Engineering continues its Capstone Design course in 2018-19. 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 2018 to April 2019
- 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 29, 2018 – Statements of Need (SONs) submitted by partner organizations
- August 15, 2018 – Students matched to Client projects
- April 2019 – 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: _____
Address: _____ City: _____
Province: _____ Postal Code: _____
Signature: _____ Tel: _____

Statement of Need

Please be concise, emphasize a need, opportunity, or problem, and allow for multiple approaches and solutions.

Negotiations regarding non-disclosure / intellectual property will be required

Partner Organization SON Assessment

Please provide a candid self-assessment of your SON against the following criteria:

Upside Value	If the project is successful, how valuable are the results to your organization?	Low <input type="checkbox"/>	Medium <input type="checkbox"/>	High <input type="checkbox"/>
Downside Risk	If the project is unsuccessful, what is the potential impact on your organization?	Low <input type="checkbox"/>	Medium <input type="checkbox"/>	High <input type="checkbox"/>
Learning Opportunity	The extent of opportunity for students to refine existing, or earn new tools and skills?	Low <input type="checkbox"/>	Medium <input type="checkbox"/>	High <input type="checkbox"/>

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 | <input type="checkbox"/> Materials and Structures |
| <input type="checkbox"/> Control Systems | <input type="checkbox"/> Robotics | <input type="checkbox"/> Mechatronics | <input type="checkbox"/> Biomechanics | |