Capstone Design is a win-win opportunity for your organization and University of Toronto Engineering: You benefit by gaining a fresh design perspective; U of T Engineering students benefit by applying their newly acquired engineering skills to meet your business needs.

COURSE COORDINATOR

Professor **Dionne Aleman**, PhD, PEng

For a catalog of all previous capstone projects, visit
www.mie.utoronto.ca/undergraduate/capstone

For more information, visit our website
uoft.me/mie-capstone

or email us at **capstone@mie.utoronto.ca**

Mechanical & Industrial Engineering
UNIVERSITY OF TORONTO

ENGINEERING BY
DESIGN

INDUSTRIAL ENGINEERING

CAPSTONE DESIGN PROJECTS

Cover: A production planning tool, developed by industrial engineering students in collaboration with Salesforce.com.

Above: An application developed by industrial engineering capstone students to help patients and their families navigate Toronto General Hospital.

WHAT IS "CAPSTONE DESIGN"?

Capstone Design is a final year core course in which students use engineering principles, methods, and processes to address a client's needs, under the supervision of a faculty member. Student teams meet specific client requirements through a creative, iterative, and open-ended design process.

A Capstone project must include:

— Application of disciplinary knowledge and skills
— Demonstration of engineering decision-making
— Client interaction
— Demonstration of proof of the design concept

WHY SHOULD YOU PARTICIPATE?

— Introduce innovative concepts and improvements into your organization
— Obtain solutions to key design issues
— Address problems requiring an infusion of talented resources
— Leverage technical and theoretical engineering knowledge
— Identify potential employees for your organization
— Gain access to expertise of our faculty members
— Build longer-term relations with our professors

DISCIPLINARY KNOWLEDGE & SKILLS

Following is a list of subject areas covered in our Industrial Engineering program:

Optimization Methods	Project Management
Information Systems	Reliability and Maintainability
Human Factors / Ergonomics	Statistical Analysis
Simulation	Inventory Management
Scheduling	Production Planning
Business Process Engineering	Revenue Management
Quality Control	Risk Management
Decision Support Systems	Location Analysis
Human Technology Interaction	Vehicle Routing

SELECTION CRITERIA FOR PROJECTS

High Value of Project to the Client
The project should have the potential for real impact on the organization, or its clients. Capstone projects often address a problem or challenge that the organization wants to resolve, but may not have the resources or knowledge to undertake.

Right Level of Project Criticality to the Client
The project should not unduly expose the client to downside risk as a result of delays or failure to deliver, arising from the students' inexperience.

High Relevance of Project to Students
In order to test each student's ability to apply what they have learned in the program, the project requires the application of disciplinary knowledge and skills.

REQUIRED RESOURCES FOR PROJECTS

Student Resources
Each project team involves 3-4 students, each working approximately 10 hours per week for about 26 weeks.

Client Resources
The client's immediate contact is expected to spend about 1-2 hours per week to support the project. This includes timely access to data essential for the completion of the project.

HOW TO PARTICIPATE

Complete a Statement of Need (SON) to be found online:
uoft.me/mie-capstone

— The SON defines the general nature of the problem to be solved;
— Explains the main idea or problem in one or two paragraphs, and;
— Details and scope of the project will be discussed in the first team meeting in September with the client, students, and optionally, the faculty supervisor.
— An organization may submit multiple SONs.
— Clients can request for an NDA to be signed by the students and supervisor.

Submit your SON to:
capstone@mie.utoronto.ca

WHEN TO SUBMIT

We request that you submit your project proposal by end of June. All accepted projects will be made available for students' viewing on our course website in the summer. By mid August, students will be assigned to a project based on their stated preferences.

ACCEPTING YOUR PROPOSAL

Acceptance notifications will be issued within a few business days after your submission.