

**Syllabus: ECON 674 – Capstone Research Project
Winter 2019**

Class meeting days (on campus):

Friday January 10th (Orientation)

Friday April 3rd (Presentations)

Instructor:

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Office Hours: Mondays 11:30-1:00 or by appointment

Background and Objectives:

Globalization and technological change are combining to create an ultra-competitive business climate where firms must constantly reinvent themselves just to survive. Whereas fifty years ago, top firms could expect to remain dominant for generations, this is no longer true today. For example, in the 1960s a company in the S&P500, could expect to remain there for over half a century. Today, it can expect to remain on the list fewer than two decades.¹

To remain relevant in this new environment, firms are having to be nimbler. They can no longer rely on top executives and R&D centres to identify opportunities and find avenues for future growth. Increasingly, they are relying on a decentralized approach to innovation that is centred on entrepreneurial employees who think and act as entrepreneurs within their firm. These so-called “intrapreneurs” recognize problems and innovate to turn problems into opportunities. Today, firms are looking to employees at all levels to not only fulfill their daily duties, but also to recognize opportunities for the firm and undertake ventures that will help the firm renew itself.

This course will help you tap into your inner intrapreneur. You will be asked to think hard about potential opportunities at your coop employer. Did you encounter any problems while on coop and could solving these lead to opportunities for your employer - and for you if you initiate and drive that change? Start by identifying several problems/challenges that your employee is facing. These could be operational, strategic, or other types of challenges. Next, whittle these down to the single problem/opportunity that you feel is most significant and learn everything that you can about that problem. Before problems can be effectively tackled, it is imperative that they be well defined and understood. Why does this problem exist? Why has it not yet been solved? You will be asked to provide an in-depth analysis of the problem, leveraging all

¹ source: Creative Destruction Whips Through Corporate America, Innosight, 2012

the economics tools that you have learned. You will be evaluated not only on your analysis of the problem, but also on the importance of the problem that you have identified.

I would strongly advise that you start thinking about and researching your problem(s) during your coop placement. It is during this time that you will have access to people and resources at your workplace. I encourage you to interview key people in your organization (explain to them what you are doing) and ask about accessing relevant information. By January, you should have a good idea of what problem you are going to be analyzing.

Note: you are welcome to work in teams of 2 or 3 people, though clearly the expectations will be slightly different for a team of 3 than for someone working alone. If you do work in a team, you will have to choose a problem from one of your coop placements.

Deliverables:

Proposal:	10% of final grade (due Friday January 24)
Progress report:	5% of final grade (due Friday February 28)
Presentation:	30% of final grade (Friday April 3)
Participation:	5% of final grade (Friday April 3)
Final report:	50% of final grade (due Monday April 6)

You must submit a written proposal 14 days after our initial meeting. Your proposal should describe what problem/opportunity you will be examining and give an outline of the types of analyses that you expect to undertake. The proposal will normally be 1-2 pages in length.

Important: given that the proposal is due shortly after our initial orientation meeting, the expectation is that you will be identifying suitable problems/opportunities during your coop placement in the Fall term.

You will also be responsible for submitting a progress report roughly halfway through the term. The progress report will normally be approximately 2 pages in length and will outline 1. What you have done so far, 2. What work remains.

We will all gather on campus at the end of term for presentations. Your presentation will be 15 minutes followed by 5 minutes of questions and answers. You will be graded on both the content and quality of your presentation. I expect all of you to participate fully during the presentations as you will by then all be experts on analysing problems. I want you to ask the hard questions of your colleagues and to make constructive suggestions.

Your final report will be due the Monday after the presentations. It will typically be 20-40 pages and be graded along three dimensions:

1. Your analysis of the problem. Did you offer a coherent analysis that leverages all the skills that you learned in your economics training? Is there evidence that careful research was conducted (interviewed relevant people, consulted appropriate sources, etc.). Did you show initiative and creativity? (50%)

2. The importance of the problem that you have chosen. You must convince me that your problem is significant, using not only words, but also hard facts! (25%)
3. Quality of writing/presentation. Is your paper written clearly, concisely, and without errors? Are your tables and figures clear and informative? (25%)

Absence from Presentations day:

You and your teammates must present your problem in person on the day of presentations. Failure to do so will earn you a grade of zero both for your presentation and for participation. Because of the nature of the day, presentations cannot be rescheduled.

Late Submission of Proposal/Report:

Late submissions will incur a penalty of 10% per day for the first five days. After five days, your proposal/report will not be accepted and you will earn a grade of zero.

Structure of Final Report

Your final report should include the following main sections and have the following structure (though you should also include subsections and perhaps even additional main sections):

1. Executive summary
2. Preface (your coop(s) and how the problem relates)
3. Introduction
4. Problem definition and context
5. Importance of problem
6. History of the problem
7. Tackling the problem
8. Conclusion
9. References

The executive summary is typically no more than one page and summarizes all of the main contributions and findings of the report. The preface should be a one page description of your coop placements (for all team members), how the problem is related to at least one of the coop placements, and why you chose to work on that problem. The introduction should give a brief introduction to the problem you are going to analyse, describe your industry, your work setting, and how your problem pertains to your workplace. For the contents of sections 3-5 (the main body of the problem analysis) please refer to the problem analysis methodology below. The section on “tackling the problem” should briefly discuss how you intend to (or would attempt to) tackle/solve the problem. Note, that offering “solutions” is not the primary focus of your report, but you should nonetheless give the reader some idea of how you might convert the problem into an opportunity. This section should be at most one page! The last section is the conclusion where you summarise your analysis and conclusions.

Your presentation should also follow this structure, minus the executive summary.

Problem Analysis Methodology

Your problem analysis should contain the following main components, though you are welcome to include other components which you deem important for understanding the problem.

Problem definition and context

1. What exactly is the problem you are analysing? Give a detailed and specific definition of your problem.
2. Analyse the context of the problem: the environment in which the problem exists and what circumstances or conditions affect the problem. For example, what does the competitive landscape look like? Are there network effects in the industry? Are there significant economies of scale? How do institutions and government affect the problem? Are there technological changes that are relevant? Other factors that affect the problem could also include demographic trends, the macroeconomic environment, changes in social and cultural norms, etc.
3. Connections to other problems. What other problems are related to your problem? Does your problem cause some of the other problems or are other bigger problems causing your problem? If the latter, then perhaps you are looking at the wrong problem!

Importance of the problem

1. Who is the problem important to? Is it important to government, businesses, or consumers, and are there subgroups within these for which the problem is particularly important? Do the groups affected by the problem have any key common characteristics? Is the problem important to many different groups or to only one.
2. How important is the problem to this/these groups? Is it the most important problem to solve, the second most, etc.?
3. What is the scale of the problem? Can you quantify the potential value of solving the problem? For example, how much would it increase profits, decrease costs, how large might the market be, etc.
4. Do the groups affected by the problem have the resources to pay for a potential solution and are they willing to do so?

History of the problem

1. How long has the problem existed and who has identified it as a problem?
2. Is the problem growing or declining in importance? Why?
3. Failure analysis. Document all past failed attempts to solve the problem. How did they attempt to solve the problem? Why did they fail?

Tools and Resources:

1. Your colleagues and managers at your coop placement
2. Your fellow students in the capstone course
3. The UW Problem Lab

4. The UW library

The UW Problem Lab could be an invaluable resource. The problem lab encourages students to think about important problems. They have developed the problem analysis methodology (see <https://uwaterloo.ca/problem-lab/problem-archive/problem-lab-methodology>) on which this course's methodology rests. The lab also has sample problems and experts that you can consult.

I also encourage you to pitch your problem at the pitch competitions that will be held this term (see <http://velocity.uwaterloo.ca/problempitch/>). Applications are due by Feb 3rd. You may just win the \$5000 prize!

I am also available over the course of the term if you have any questions or want to discuss your problem.

Cross-listed course

Please note that a cross-listed course will count in all respective averages no matter under which rubric it has been taken. For example, a PHIL/PSCI cross-list will count in a Philosophy major average, even if the course was taken under the Political Science rubric.

Academic Integrity

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility. See the [UWaterloo Academic Integrity](#) webpage and the [Arts Academic Integrity](#) webpage for more information.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to [Policy 71 - Student Discipline](#). For typical penalties check [Guidelines for the Assessment of Penalties](#).

Turnitin.com: Text matching software (Turnitin®) will be used to screen assignments in this course. This is being done to verify that use of all material and sources in assignments is documented. If you do not want to have your submissions screened by Turnitin® you must let me know within the first week of the term so we can make alternative arrangements.

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. [Read Policy 70 - Student Petitions and Grievances](#), Section 4. When in doubt, please be certain to contact the department’s administrative assistant who will provide further assistance.

Appeals: A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 - Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to [Policy 72 - Student Appeals](#).

Accommodation for Students with Disabilities

Note for students with disabilities: [The AccessAbility Services office](#), located on the first floor of the Needles Hall extension (1401), collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.