SYDE 599: The Healthcare System

Winter 2022 - DRAFT

General Information

Course Description and Prerequisites

A broad introduction to the Canadian healthcare system, with emphasis on factors related to biomedical engineering. History, structure and function of various healthcare organizations, procurement practices in healthcare, electronic health records and information exchange.

At least level 3A engineering, or department consent.

Timing and Format

Lectures: Monday 8:30-9:50 and Wednesday 1:30-2:50
Tutorial: Thursday 12:30-1:20

The course will be held online initially and in person as soon as allowed. We will have a number of external invited speakers, and there will be an emphasis on in-class activity and participation.

Instructors

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Elliot Fung [elliot@medicalinnovationxchange.ca]

Required Texts

Thompson, 2020, *Health and Health Care Delivery in Canada*, 3rd Ed.
Hopp & Lovejoy, 2013, *Hospital Operations: Principles of High-Efficiency Healthcare* (available online from UW Library)

Intended Learning Outcomes

By the end of the course students should be able to:
1. Explain the organization and function of the Canadian healthcare system
2. Identify opportunities and barriers related to the adoption of engineering artefacts in healthcare

Assessments

	Weight	Assessment	Timing	ILOs
1	12%	Quizzes	Weekly	
2	12%	Class participation	Weekly	
3	12%	Reflections	Weekly	
4	64%	Project Preliminary report (14%) Final report (50%)	 Week 6 Exam period	

Weekly Topics

Note: Due to involvement of external speakers, the potential for changes in public health guidance, and the fact that the course is new, the instructors reserve the right to modify course content, delivery, and schedule as the term goes on.

Week	Topics
1	History of healthcare in Canada, single vs. multi-payer healthcare systems
2	Local Health Integration Networks, Ontario Health Teams, and KW4
3	Federal vs provincial jurisdictions Healthcare practitioners
4	Patient experiences / journeys
5	Structure and function of acute care hospitals
6	Structure and function of the long-term-care sector
7	Structure and function of home and community care support services
8	Structure and function of primary care systems
9	Health system modelling
10	Procurement processes and legislation in healthcare and implications for technology development
11	Health records, the Personal Health Information Protection Act, and implications for technology development
12	Standards for healthcare information exchange

Sources

The main sources of information will be:
- The textbooks (above)
- Additional resources (e.g. readings, podcasts) to be posted on Learn
- In-class presentations by subject-matter experts

Project

The project must be completed individually. Deliverables include intermediate and final reports. Your goal for the project is to map the Canadian healthcare system as it relates to management a certain health condition. Conditions can be chosen from a list that the instructors provide. The project should address the historical context of the condition and its treatment in Canada, roles of various organizations, information flow, key bottlenecks and/or limitations in care, potential engineering solutions, and potential barriers to their implementation. Rubrics and guidelines for the reports will be posted on Learn.