

4E06 A/B

Health, Engineering Science and Entrepreneurship III: From Idea to Enterprise

Fall/Winter 2020/21

Course Outline

CALENDAR/COURSE DESCRIPTION

Introduces business and economic concepts needed to bring new healthcare tools and services to market. Through a business lens, participants will actively explore the concepts of product innovation, development, and marketing in the healthcare marketplace through lectures, podcasts, research projects and labs. At the conclusion of the course, participants will have developed the skills to design, build and promote innovative healthcare solutions.

PRE-REQUISITES AND ANTI-REQUISITES

Prerequisite(s): IBEHS 2E06 A/B and registration in the Health, Engineering Science and Entrepreneurship Specialization of the Integrated Biomedical Engineering and Health Sciences (IBEHS) program

Antirequisite(s): None

INSTRUCTOR OFFICE HOURS AND CONTACT INFORMATION

Dr. Kenneth Owen

Virtual Office

owenk@mcmaster.ca

Office Hours:

Monday – Friday Mornings, open door policy

Use Microsoft Teams to contact me for video chat.

Or by appointment

TEACHING ASSISTANT OFFICE HOURS AND CONTACT INFORMATION

Amy Jenkins

Virtual Office

jenkia4@mcmaster.ca

Lianna Genovese

Virtual Office

genovesl@mcmaster.ca

COURSE WEBSITE/ALTERNATE METHODS OF COMMUNICATION

We will be using Avenue to learn, Zoom, Microsoft Teams and Kritik.io in class

For privacy reasons only student e-mails originating from a “@mcmaster.ca” E-mail address will be answered.

DO NOT E-mail in Avenue. I do not check that mailbox.

Microsoft Teams will be used for meeting with the professor or the TA's

Office Hours: The Professor – if teams is showing the green available icon beside their name feel free to video call them. If you wish to talk to a TA message them and arrange a meeting time.

Avenue to learn will be our main course site. All lectures, materials, announcements, etc. will be found there.

Kritik will be used to collect and evaluate all assignments. Kritik is a new tool in this course. It allows students to learn from each other through the evaluation process. There is a fee that you will need to pay to access critic.

COURSE OBJECTIVES

By the end of this course, within the context of healthcare students will be able to:

- List their innovation strengths and weaknesses
- Identify the type of innovation occurring in a new endeavour
- Identify a business opportunity
- Evaluate strategies for addressing an innovation challenge
- Design a value proposition for a new idea
- Validate a product concept
- Apply “lean” processes to a product start-up
- Plan a Minimum Viable Product strategy
- Identify key marketing messages
- Interpret basic business reporting documents
- Produce a product launch budget
- Produce a go to market plan
- Identify key intellectual property assets and appropriate protection measures
- Interpret key health care regulation
- Be able to outline a business exit strategy.

MATERIALS AND FEES

Required Texts:

None!

Additional Fees:

One Ivey Business cases will be assigned

A Kritik.io account is needed.

COURSE OVERVIEW

The Course is divided into four sections

Module	Topic
1	Intro to Innovation and Entrepreneurship
2	Identifying Needs and Creating Value
3	Basic Business Skills
4	Exit

A detailed schedule of activities can be found at the end of this document.

ASSESSMENT

Component	Weight
Group Work	40%
Individual Assignments	40%
Class Participation	20%
Total	100%

Group work will consist of five milestones equally weighted. All milestones will have fixed deadlines, but groups are encouraged to submit early to receive feedback to improve their final deliverable. **Due Dates will be posted in A2L.**

Individual assignments will include eight reflection pieces. All will be assessed by your peers using Kritik. TA's will monitor peer assessments and address any grading disputes. **Due Dates will be posted in A2L.**

Participation marks are worth 20% of your final grade. Your marks will be assigned for various contributions you make throughout the year. There are several ways to get participation marks. While talking in class is always a good idea it is hard sometimes to be noticed. Participation marks will be organized into four categories: Debate, Develop, Depth, and Demonstration. You can receive no more than 33% of your participation marks from any one category. The total amount of participation marks can not exceed 100% of the marks available.

Debate: Ask questions and respond to questions. You can do this in lecture/lab or in the discussion forums online.

Develop: This is a new course; feedback is needed to ensure quality. Participate in surveys or try out new tools. If volunteers are asked for, get involved.

Depth: Contribute to the class by sharing interesting articles, videos, or your own work. Whatever you can bring to the class experience that adds new insight to the course content fits here.

Demonstration: Take what you learn out into your community. If you belong to a campus club and use one of the evaluations frameworks from class, we would like you to share your experience with us.

Be smart, each time you contribute ask the professor or TA's if you could have participation marks. Do this through e-mail within 24hours that way you are reminding us in case something slips by.

ACADEMIC INTEGRITY

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at <http://www.mcmaster.ca/academicintegrity>

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.

ACADEMIC ACCOMMODATIONS

Students who require academic accommodation must contact Student accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contact by phone at 905.525.9140 ext. 28652 or e-mail at sas@mcmaster.ca. For further information, consult McMaster University's Policy for [Academic Accommodation of Students with Disabilities](#).

NOTIFICATION OF STUDENT ABSENCE AND SUBMISSION OF REQUEST FOR RELIEF FOR MISSED ACADEMIC WORK

1. The [McMaster Student Absence Form](#) is a self-reporting tool for Undergraduate Students to report absences DUE TO MINOR MEDICAL SITUATIONS that last up to 3 days and provides the ability to request accommodation for any missed academic work. Please note this tool cannot be used during any final examination period.
2. You may submit a maximum of 1 Academic Work Missed request per term. It is YOUR responsibility to follow up with your Instructor immediately (NORMALLY WITHIN TWO WORKING DAYS) regarding the nature of the accommodation. Relief for missed academic work is not guaranteed.
3. If you are absent for reasons other than medical reasons, for more than 3 days, or exceed 1 request per term you MUST visit the Associate Dean's Office (JHE/A214). You may be required to provide supporting documentation.
4. This form must be submitted during the period of absence or the following day and is only valid for academic work missed during this period of absence.
5. It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in his/her course.
6. You should expect to have academic commitments Monday through Saturday but not on Sunday or statutory holidays. If you require an accommodation to meet a religious obligation or to celebrate an important religious holiday, you may submit the Academic Accommodation for Religious, Indigenous and Spiritual Observances (RISO) Form to the Associate Dean's Office. You can find all paperwork needed here: <http://www.eng.mcmaster.ca/current/documents.html>

NOTICE REGARDING POSSIBLE COURSE MODIFICATION

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

TURNITIN.COM STATEMENT

In this course we will be using a web-based service (Turnitin.com) to reveal plagiarism. Students will be expected to submit their work electronically to Turnitin.com and in hard copy so that it can be checked for academic dishonesty. Students who do not wish to submit their work to Turnitin.com must still submit a copy to the instructor. No penalty will be assigned to a student who does not submit work to Turnitin.com. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, etc.). To see the Turnitin.com Policy, please go to <http://www.mcmaster.ca/academicintegrity/>.

ON-LINE STATEMENT FOR COURSES REQUIRING ONLINE ACCESS OR WORK

In this course, we will be using Avenue to Learn, Zoom, Teams, and Kritic. Students should be aware that when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure, please discuss this with the course instructor.

REFERENCE TO RESEARCH ETHICS

The two principles underlying integrity in research in a university setting are these: a researcher must be honest in proposing, seeking support for, conducting, and reporting research; a researcher must respect the rights of others in these activities. Any departure from these principles will diminish the integrity of the research enterprise. This policy applies to all those conducting research at or under the aegis of McMaster University. It is incumbent upon all members of the university community to practice and to promote ethical behaviour. To see the Policy on Research Ethics at McMaster University, please go to <https://reo.mcmaster.ca/>.

CLASS SCHEDULE

		Module	Topic
07-Sep	Week 1	1	Welcome
14-Sep	Week 2		What is innovation
21-Sep	Week 3		Porters and Swot. Library resources?
28-Sep	Week 4		Ideation
05-Oct	Week 5		Ethics
12-Oct	Recess		
19-Oct	Week 6	2	Motivation Needs and Wants
26-Oct	Week 7		Value Proposition & VPC Customer profile
02-Nov	Week 8		VPC Value Map
09-Nov	Week 9		VPC testing & Fit #1
16-Nov	Week 10		VPC testing & Fit #2
23-Nov	Week 11		Value Proposition Canvas
30-Nov	Week 12		Lean Business Canvas
07-Dec	Week 13		Decision making and Contingency planning
	Winter Break		
04-Jan	Week 14	3	Pitching technique
11-Jan	Week 15		Go to market strategy
18-Jan	Week 16		Marketing
25-Jan	Week 17		Business Math
01-Feb	Week 18		Financial Reporting
08-Feb	Week 19		Budget projections
15-Feb	Recess		
22-Feb	Week 20		How to Fund your project
01-Mar	Week 21		Intellectual Property
08-Mar	Week 22		Health care regulations and governance
15-Mar	Week 23	4	Managing Growth
22-Mar	Week 24		Exit Strategy
29-Mar	Week 25		Review
05-Apr	Week 26		Video pitch review