IBEHS 3EE6 A/B - Health, Engineering Science and Entrepreneurship II: From Idea to Enterprise

INSTRUCTOR CONTACT INFORMATION

Instructor	TA info	
Dr. Kenneth Owen	Salma Abdelghaffar	abdelghs@mcmaster.ca
owenkd@mcmaster.ca	Jacob Howran	howranj@mcmaster.ca

CLASS MEETING TIMES AND LOCATIONS

Day	Time	Location
Mondays	8:30-10:20	ABB B118
Sept 8 – Dec 7	14:30-17:20	BSB 136

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 marketspace 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.

LEARNING OUTCOMES

Upon completion of this course, students will be able to complete the following key tasks:

- Write a feasible business plan.
- Articulate a businesses value proposition.
- Assess a new ventures business environment.
- Identify intellectual property components in a business opportunity.
- Identify potential opportunities and challenges in the marketing and operations of a proposed endeavour.
- Design a start-up budget
- Build a convincing pitch

REQUIRED COURSE MATERIALS AND READINGS

No Textbook	$0
Kritik.io Account	~$20

EVALUATION

Individual Assignments	40%
Group Project	50%
Participation	10%

Individual Assignments
You will be required to submit nine reflections. They typically will be one to two double spaced pages in length. Individual assignments will be submitted through Kritik.io. Only eight of the nine will used in calculating your final grade. Your lowest grade will be dropped.

Group Project
There are eight project milestone in this course. They represent different phases of a business plan development. Group work will be submitted through Avenue-2-Learn.

Participation
You receive marks for this item based on your team member feedback and participation in lecture review surveys.

COMMUNICATION AND FEEDBACK

Through E-mailing your course instructor at owenkd@mcmaster.ca.
NEVER USE Avenue to Learn's E-mail system it will be overlooked and will not be responded to.
Include "1X03 in the Subject so we can filter in and make sure we see it.

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 www.mcmaster.ca/academicintegrity.

The following illustrates only three forms of academic dishonesty:

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

AUTHENTICITY / PLAGIARISM DETECTION

In this course we will be using a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. Students will be expected to submit their work electronically either directly to Turnitin.com or via Avenue to Learn (A2L) plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish to submit their work through A2L and/or Turnitin.com must still submit an electronic and/or hardcopy to the instructor. No penalty will be assigned to a student who does not submit work to Turnitin.com or A2L. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, other software, etc.). To see the Turnitin.com Policy, please go to www.mcmaster.ca/academicintegrity.

ON-LINE ELEMENT

In this course we will be using Avenue to Learn (A2L), Zoom, Teams, Webex, Macvideo, Echo360. 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.

ACADEMIC ACCOMMODATION OF STUDENTS WITH DISABILITIES

Students with disabilities who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or e-mail sas@mcmaster.ca. For further information, consult McMaster University's Academic Accommodation of Students with Disabilities policy.

REQUESTS FOR RELIEF FOR MISSED ACADEMIC TERM WORK
MCMASTER STUDENT ABSENCE FORM (MSAF)

In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work". MSAFs will be given a 48hour extension from the original due date of an assignment. Only individual work is eligible for a MSAF extension, group work will not be considered.

ACADEMIC ACCOMMODATION FOR RELIGIOUS, INDIGENOUS OR SPIRITUAL OBSERVANCES (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the RISO policy. Students requiring a RISO accommodation should submit their request to their Faculty Office normally within 10 working days of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

EXTREME CIRCUMSTANCES

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L and/or McMaster email.

MCMASTER UNIVERSITY GRADING SCALE

Grade	Equivalent Grade Point	Equivalent Percentages
A+	12	90-100
A	11	85-89
A-	10	80-84
B+	9	77-79
B	8	73-76
B-	7	70-72
C+	6	67-69
C	5	63-66
C-	4	60-62
D+	3	57-59
D	2	53-56
D-	1	50-52
F	0	0-49

COURSE SCHEDULE

Fall

Date	Topic	Due
Sept 13	Welcome	
Sept 20	Ethics	
Sept 27	Business Structure, Decision Making & Communication	
Oct 4	Where Value Comes From: Needs, Utilitarianism	Reflection: Freedom House
Oct 11	Fall Break	
Oct 19	Finding The Perfect Idea (Value Proposition Canvas)	Reflection: Krista Donaldson: The $80 prosthetic knee that's changing lives
Oct 26	Lean Canvas	
Nov 02	Business Plans	
Nov 09	Primary Research (Lime Survey)	Reflection: White Coat Black Art - Hospital gowns
Nov 16	Secondary Research	
Nov 23	Research External Environment	
Nov 30	Marketing	Reflection
Dec 07	Idea Showcase (pitch #1a)	Idea Showcase (pitch #1b)

Winter

Date	Topic	Due
Jan 10	Going Online	Reflection
Jan 17	Intellectual Property	
Jan 24	Funding types & Sources & Timing	
Jan 31	Financial Statements	Reflection
Feb 7	Ratios &Modeling with Excel	
Feb 14	Excel Budgeting	
FEB 21	Spring Break	
Feb 28	Pitching	Reflection
March 7	Intellectual Property	
March 14	Government	
March 21	Business life cycle / Future proofing	Reflection
March 28	Quality Assurance	
April 4	Pitcher Mound Finals	

Integrated Biomedical Engineering & Health Sciences (IBEHS) Labs/Design Studio Safety

Information for Laboratory Safety and Important Contacts

This document is for users of IBEHS instructional laboratories at the following locations:

- ABB C104 (Design Studio)
- ETB 533 (Medical Imaging/Biomaterials Lab)
- ETB 534 (Medical Instrumentation/Robotics Lab)
- HSC 4N72 (Genetic Engineering Lab)

This document provides essential information for the healthy and safe operation of IBEHS instructional laboratories. This document is required reading for all laboratory supervisors, instructors, researchers, staff, and students working in or managing instructional laboratories in IBEHS. It is expected that revisions and updates to this document will be done continually. A McMaster University lab manual is also available to read in every laboratory.

For Standard Operating Procedures (SOPs), Health and Safety videos and other resources, follow this link.

General Health and Safety Principles

Good laboratory practice requires that every laboratory worker and supervisor observe the following:

- Food and beverages are not permitted in the instructional laboratories.
- A Laboratory Information Sheet on each lab door identifying potential hazards and emergency contact names should be known.
- Laboratory equipment should only be used for its designed purpose.
- Proper and safe use of lab equipment should be known before using it.
- The lab tech or course TA leading the lab should be informed of any unsafe conditions.
- The location and correct use of all available safety equipment should be known.
- Potential hazards and appropriate safety precautions should be determined, and the sufficiency of existing safety equipment should be confirmed before beginning new operations.
- Proper waste disposal procedures should be followed.
- Personal ergonomics should be practiced when conducting lab work.
- Current University health and safety issues and protocols should be known.

Location of Safety Equipment

Fire Extinguisher
On walls in halls outside of labs or within labs

First Aid Kit
ABB C104, ETB 533, ETB 534, HSC 4N72 or dial "88" after 4:30 p.m.

Telephone
On the wall of every lab near the door

Fire Alarm Pulls
Near all building exit doors on all floors

Who to Contact

Emergency Medical / Security:

On McMaster University campus, call Security at extension **88** or **905-522-4135** from a cell phone.

Hospital Emergency Medical / Security:

For McMaster HSC, call Security at extension **5555** or **905-521-2100** from a cell phone.

Non-Emergency Accident or Incident: Immediately inform the Lab Tech, TA on duty or Course Instructor.

University Security (Enquiries / Non-Emergency):

Dial 24281 on a McMaster phone or dial 905-525-9140 ext. 24281 from a cell phone.

See Lab Tech, TA or Instructor: For problems with heat, ventilation, fire extinguishers, or immediate repairs.

Environmental & Occupational Health Support Services (EOHSS): For health and safety questions dial 24352 on a McMaster phone or dial 905-525-9140 ext. 24352 from a cell phone.

IBEHS Specific Instructional Laboratory Concerns: For non-emergency questions specific to the IBEHS laboratories, please contact appropriate personnel below from a McMaster phone:

- Leela Pilli, Labortatory Technician – 26888
- Parmveer Bola, Instructional Assistant – 23521
- Andrej Rusin, Wet Laboratory Technician – 28347
- Alexa Behar-Bannelier, Program Manager – 24548

In Case of a Fire (Dial 88)

When calling to report a fire, give name, exact location, and building.

1. Immediately vacate the building via the nearest Exit Route. Do not use elevators!
2. Everyone is responsible for knowing the location of the nearest fire extinguisher, the fire alarm, and the nearest fire escape.
3. The safety of all people in the vicinity of a fire is of foremost importance. But do not endanger yourself!
4. In the event of a fire in your work area shout "*Fire!*" and pull the nearest fire alarm.
5. Do not attempt to extinguish a fire unless you are confident it can be done in a prompt and safe manner utilizing a hand-held fire extinguisher. Use the appropriate fire extinguisher for the specific type of fire. Most labs are equipped with Class A, B, and C extinguishers. Do not attempt to extinguish Class D fires which involve combustible metals such as magnesium, titanium, sodium, potassium, zirconium, lithium, and any other finely divided metals which are oxidizable. Use a fire sand bucket for Class D fires.
6. Do not attempt to fight a major fire on your own.
7. If possible, make sure the room is evacuated; close but do not lock the door and safely exit the building.

Clothing on Fire

Do not use a fire extinguisher on people.

1. Douse with water from safety shower immediately or
2. Roll on the floor and scream for help or
3. Wrap with fire blanket to smother flame (a coat or other nonflammable fiber may be used if a blanket is unavailable). Do not wrap a standing person; rather, lay the victim down to extinguish the fire. The blanket should be removed once the fire is out to disperse the heat.

Equipment Failure or Hazard

Failure of equipment may be indicative of a safety hazard - You must report all incidents.

Should you observe excessive heat, excessive noise, damage, and/or abnormal behaviour of the lab equipment:

1. Immediately discontinue use of the equipment.
2. In Power Lab, press the wall-mounted emergency shut-off button.
3. Inform your TA of the problem.
4. Wait for further instructions from your TA.
5. TA must file an incident report.

Protocol for Safe Laboratory Practice

Leave equipment in a safe state for the next person - if you are not sure, ask!

Defined Roles

TA	The first point of contact for lab supervision	
IBEHS Lab Technician	Leela Pilli	pillil@mcmaster.ca
IBEHS Instructional Assistant	Parmveer Bola	bolap1@mcmaster.ca
IBEHS Wet Lab Tech	Andrej Rusin	rusina@mcmaster.ca
IBEHS Co-Directors	Dr. Greg Wohl Dr. Michelle MacDonald	wohlg@mcmaster.ca macdonml@mcmaster.ca
IBEHS Program Manager	Alexa Behar-Bannelier	alexa.behar@mcmaster.ca
IBEHS Course Instructor	Please contact your specific course instructor directly	