

IBEHS 1P10: Health Solutions Design Projects I

Fall/Winter 2020-21

1. ADMINISTRATIVE DETAILS

COURSE INSTRUCTORS:

Dr. Colin P. McDonald, PhD, P.Eng cmcdona@mcmaster.ca	Office: ETB-111 Office Hours: Mondays 2:00-3:30pm EST Tuesdays 8:30-10:00pm EST
Dr. Kyla Sask, PhD ksask@mcmaster.ca	Office: ABB-C309 Office Hours: Mondays 8:30-9:30pm EST Wednesdays 11:30am-12:30pm EST

TEACHING ASSISTANTS (TA's):

Instructional Teaching Assistants (Instructional TAs): Your Instructional TAs will be guiding your Labs, and will be a point of contact for all students during lab activities

Hosam Abdel-Hafeez	abdelh1@mcmaster.ca	Amanda Tomkins	tomkinsa@mcmaster.ca
Erin Puersten	epuersten@gmail.com	William Ward	wardw1@mcmaster.ca

Lab Support TAs – FALL TERM: Each Lab section will have 5-8 of the following TA's

Dabeer Abdul-Azeez	Ansh Kuckreja	Jessica Lim	Gurleen Nijjar
Jack Flannery	Emilie Lam	Meghan Mazer	Taha Parvez
Yumna Irfan	Kaylie Lau	Carrie Men	Isabelle Ragany
Prerana Keerthi	Alvin Lee	Vikash Nanthakumar	Kira White

Design Studio Lead TAs – FALL TERM: Your Lead Design Studio TA will facilitate all project activities

Sarah Abdel-Rahman	abdels5@mcmaster.ca	Andrew D'Elia	deliaa2@mcmaster.ca
Minha Amir	amirm13@mcmaster.ca	Konrad Grala	gralak@mcmaster.ca
Monica Banayoty	banayotm@mcmaster.ca	Terrel Marshall	marsht5@mcmaster.ca
Joe Deering	deeringj@mcmaster.ca		

Design Studio Support TAs – FALL TERM: Each Design Studio (Tutorial) section will have 2-3 of the following Support TA's

Madelyn Hogan	Emma Rogers	Joshua Tefal
Lindsay Kuyltjes	Omotora Saka	Ishan Vermani

ADDITIONAL SUPPORT:

Parmveer Bola bolap1@mcmaster.ca	Instructional Assistant Office: ABB-C103/A
Alessandra DiBiase profeta@mcmaster.ca	Instructional Coordinator Office: MDCL-3510

2. WHO WE ARE

COURSE INSTRUCTORS:

Your **course instructors** are responsible for overseeing the delivery of the entire course. You will see us during **Lectures** where we will introduce fundamental topics meant to inform your lab and design project activities. You will also see us occasionally in Tutorials (we call them **Design Studio's**). Working alongside your TA's, we are there to provide guidance, offer feedback, and occasionally challenge you to push your own boundaries, take the road less travelled, and just generally get comfortable being uncomfortable.

INSTRUCTIONAL TA'S:

Your **Instructional TA's** are upper-year students who are responsible for guiding your lab activities. Each week, they will introduce a new topic related to either computing or graphics design. Over a 60-minute lesson, your Instructional TA will walk you through some examples and offer some tips and tricks to bolster your technical toolkit. Working alongside your Lab Support TA's, they will guide you as you apply what you have learned towards completion of a graded assignment or non-graded activity. The table below highlights (in grey) where you can expect to see each TA.

	Monday	Tuesday	Wednesday	Friday
Hosam Abdul-Hafeez				
Erin Puersten				
Amanda Tomkins				
William (Liam) Ward				

DESIGN STUDIO LEAD TA'S:

Your **Design Studio Lead TA's** are upper-year students responsible for facilitating weekly design studio sessions. Working alongside your Instructors, Faculty Mentors, and Design Studio Support TAs, they will direct you to everything that will need to be done that day and facilitate the overall session, providing guidance and support, as well as a unique perspective! The table below highlights (in grey) where you can expect to see each TA.

	Monday	Tuesday	Wednesday	Thursday	Friday
Sarah Abdel-Rahman					
Minha Amir					
Monica Banayoty					
Joe Deering					
Andrew D'Elia					
Konrad Grala					
Terrel Marshall					

SUPPORT (LAB AND DESIGN STUDIO) TA’s:

Your **Support TAs** come as advertised! They are here to support the instructional team, provide guidance and mentorship to students, and grade most of your work. You will see some of them during **Labs** where they will join you in small-group virtual meetings, answering questions and providing support related to an assignment or activity you are working on. You will also see some of them during **Design Studio’s**. Working alongside your Lead TA’s, Instructors, and Faculty Mentors they sit in on weekly team meetings (where you update them on your progress) and provide general guidance and support throughout each project. They are also responsible for grading of submitted work and providing detailed feedback as appropriate. Throughout the year, you will each get to know a few of them quite well as they will be readily accessible to you during your scheduled Labs and Design Studio’s.

FACULTY MENTORS:

Each week during Design Studio, a group of faculty members (including your course instructors) from both Engineering and Health Sciences will provide an additional perspective as they mentor you through your Design Projects. Working alongside your TA’s, they are there to provide guidance, offer feedback, and occasionally challenge you to push your own boundaries, take the road less travelled, and just generally get comfortable being uncomfortable. The table below highlights (in grey) where you can expect to see each faculty mentor.

	Monday	Tuesday	Wednesday	Thursday	Friday
Dr. Andrew Cheung					
Dr. Alex Drossos					
Dr. Qiyin Fang					
Dr. Kim Jones					
Dr. Vince Leung					
Dr. Colin McDonald					
Dr. Kyla Sask					
Dr. Kara Schnarr					
Dr. Bill Simpson					
Dr. Janie Wilson					
Dr. David Wilson					
Dr. Greg Wohl					

3. COMMUNICATION POLICY

Need help and have questions related to the course? We want to make sure your questions get answered. To ensure this, it’s important that the correct communication method is used.

Got a question **during** scheduled class hours (e.g., lecture, lab, Design Studio)? The best way to get a prompt response is to message the person directly on **MS Teams** using the “@” tool.

Got a question **outside** scheduled class hours? In this case, email is the best method. Please direct all emails to: prof1p10@mcmaster.ca. This ensures your email gets directed to the most appropriate individual for the fastest response. Every attempt will be made to reply within 24 hours (excluding weekends). Please include a subject prefix of “IBEHS 1P10”. Emails must be sent from your @mcmaster.ca account. Be sure to include your student number in your email.

4. INCLUSIVE ENVIRONMENT STATEMENT

We consider this classroom to be a place where you will be treated with respect, and we welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible and non-visible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class.

We will gladly honour your request to address you by an alternate name or gender pronoun. Please advise of this preference early in the semester so that we may make appropriate changes to our records.

5. COURSE DESCRIPTION AND LEARNING OUTCOMES

This course will introduce students to a range of fundamental topics in engineering, including engineering design and communication, computation, graphics design, materials, and the engineering profession. Topics will be introduced at a general level and applied in a biomedical context through 5 design projects. This is the first in a series of 4 Health Solutions Design Projects and serves as the foundation for the courses taken in subsequent years. The course assumes no prior background in the content.

Upon successful completion of the course, the student should be able to:	
LO.01	Demonstrate understanding and application of graphics design principles
LO.02	Demonstrate understanding and application of engineering computation principles
LO.03	Demonstrate an understanding of structure, properties, and applications of materials
LO.04	Explain professional duties of an engineer as they relate to society
LO.05	Demonstrate the ability of design thinking
LO.06	Design a well-thought-out solution to a real-world problem, giving consideration to both technical and social implications of that solution
LO.07	Demonstrate effective communication in a breadth of situations
LO.08	Demonstrate effective application of information literacy skills
LO.09	Demonstrate effective teamwork on a design project
LO.10	Reflect on past experiences and what has been learned from these experiences

6. COURSE DELIVERY

The delivery of this course occurs through 3 modules, **lectures**, tutorials (**design studio**) and laboratories (**labs**), each of which are held weekly.

LECTURES: Monday, Tuesday, and Thursday, **11:30-12:20 EST**. Lectures introduce fundamental topics and are meant to inform lab and project activities. Lectures will be held virtually over **MS Teams**. Lectures will be recorded and available for viewing on demand afterwards.

TUTORIALS (DESIGN STUDIO): 1 hour 50 minutes per week. Design Studio is a dedicated time to collaborate as a team on various project activities. Design Studio will be held virtually on a dedicated **MS Team**. Student teams will be assigned to a private channel where they will be able to meet virtually with a faculty mentor or a TA during their scheduled timeslot. Teams have access to their private channel at any time over the duration of a project. Refer to your assigned lab section for date, time & location.

LABORATORIES (LABS): 2 hours 50 minutes/week. Labs introduce and reinforce applications in computing and graphics design. Your Instructional TA will deliver a short lesson virtually on a dedicated **MS Team**. Following the lesson, students will meet in small groups to work on a given assignment and will have dedicated access to a large team of support TA's. Lab Lessons will be recorded and available for viewing on demand afterwards. Refer to your assigned lab section for date, time & location.

ONLINE MANAGEMENT – AVENUE-TO-LEARN

Avenue-to-Learn will be the online management system. Through **Avenue**, you will be able to:

- Find all course materials (lecture slides, lab materials, project documents, etc.)
- View course-related announcements
- Complete online quizzes
- Submit course work (assignment, project deliverables) for grading
- View your gradebook

Consider **Avenue** to be the locker for 1P10!

ONLINE DELIVERY – MICROSOFT TEAMS

We will be using **Microsoft Teams** for virtual delivery of the course. Through **MS Teams**, you will:

- Virtually attend your weekly lectures/labs/design studio
- Collaborate in teams on your design projects, and
- Complete weekly lab assignments under the mentorship and support of your TA's

Consider **MS Teams** to be the classroom! There will be a dedicated MS Team for each of lectures, labs, and design studio.

7. MATERIALS & FEES

REQUIRED TEXTBOOKS

There is *no required textbook* for the course. All required reading materials will be made available for free as online documents through the course management system (**Avenue-to-Learn**)

REQUIRED HARDWARE

All students will require a **Raspberry Pi 4** to interface with a number of virtualized devices, including a robotic arm and terrestrial drone. The Raspberry Pi 4 can be purchased as a kit through the Campus bookstore. The kit comes with a number of accessories, including 32GB MicroSD card.

To connect to your Pi from your laptop, you will need to physically connect your Pi, either to your laptop directly or to your home router, using an ethernet cable. To configure your Pi for use, you will need to download and copy a file from your laptop to the 32GB MicroSD Card (the file will be provided to you via Avenue). To accomplish these tasks, you may need additional accessories if you don't already have them, including a USB-C to Micro-SD Adapter (for connecting your MicroSD card to your laptop), an ethernet cable for connecting your Raspberry Pi to a laptop or router, and a USB-C to Ethernet Adapter if you intend to connect your Pi to your laptop directly, but don't have an ethernet port.

Item	URL	Cost
Raspberry Pi 4 2GB Starter Kit (from Canakit) <ul style="list-style-type: none"> • Raspberry Pi 4 Model B with 2GB RAM • USB-C Power Supply • SanDisk 32GB MicroSD Card 	http://bit.ly/rpi-kit	\$120.99
*USB-C to Micro-SD Adapter <ul style="list-style-type: none"> • If you don't already have an SD-Reader, this adapter can be used for copying files from your laptop to the Pi's MicroSD card 	https://bit.ly/usbc-to-microsd	\$26.99
*Ethernet cable <ul style="list-style-type: none"> • Use this cable to connect your Raspberry Pi to your laptop or home router 	https://bit.ly/6ft-ethernet-cable	\$6.99
*USB-C to Ethernet Adapter <ul style="list-style-type: none"> • If you want to connect your Pi directly to your laptop, use this adapter if you don't have an ethernet port 	https://bit.ly/usb-ethernet-adapter	\$34.99

*The above adapters and cables are only required if you don't already have what you need at home.

REQUIRED SOFTWARE

All software is free to download and install for McMaster students, and is also available on McMaster Campus computers via remote access

1. Autodesk Inventor Professional **2021** (www.autodesk.com/education/home)
 - a. Register in the Education Community with your McMaster University email address
 - b. To ensure compatibility with campus computers, you must select the correct version (**Autodesk Inventor 2021**) and operating system (**Windows 64-bit**).
2. Python 3.8.5 (www.python.org/download/) → any 3.8.x version will suffice
3. Quanser Interactive Labs and associated software
 - a. Download and install the Quanser Raspberry Pi image and the software packages included in the Q-Labs zip folder posted on Avenue
 - b. Follow the Q-Labs Installation and Set-up Guide to get both your laptop and Raspberry Pi set up and configured

OPTIONAL MATERIALS

The following are a list of reading materials that you might find helpful:

1. “A Beginners Guide to Python 3 Programming [electronic resource]”, by John Hunt, 1st edition. http://discovery.mcmaster.ca/iii/encore/record/C__Rb3728060
2. “The Science and Engineering of Materials”, by Donald R. Askeland, 6th edition. <https://www.amazon.ca/Science-Engineering-Materials-Donald-Askeland/dp/0495296023>

8. SUBMISSION OF WORK AND ASSESSMENT

ASSESSMENT

FINAL GRADE COMPONENT	WEIGHT
Design Projects*	56%
Design Project 0 (DP-0)	(P/F)
Design Project 1 (DP-1)	(14%)
Design Project 2 (DP-2)	(14%)
Design Project 3 (DP-3)	(14%)
Design Project 4 (DP-4)	(14%)
Lab Assignments	10%
Two (2) <u>Lab Exercises</u> (Pass/Fail)	(P/F)
Lab Exercises are graded based on completion	
Fourteen (14) <u>Mini-Milestones</u>	(10%)
Your 4 lowest grades will be dropped from the Mini-Milestone grade calculation (note: only <i>completed</i> Mini-Milestones eligible to be dropped)	
Four (4) <u>Reinforcement Labs</u>	(P/F)
Reinforcement labs are graded based on completion	
Two (2) <u>Project-Prep Lab Activities</u> (Pass/Fail)	(P/F)
Project-Prep Lab Activities are graded based on completion	
Lecture Quizzes	0-4%
<i>Completion</i> of in-class quizzes contribute <i>upwards</i> of 4% of your grade in the course. The weight of any missed questions (up to 4%) will be evenly distributed across major assessments.	
Major Assessments	30-34%
Fall Term Exam	(9%)
Graphics Design Practicum	(8%)
Computing Practicum	(8%)
Winter Term Exam	(9%)

* The range in the weight of major assessments is based on completion of lecture quizzes, ranging from a minimum weight of 30% (for completing all quizzes) to a maximum weight of 34% (failing to complete any quizzes).

*A detailed grading breakdown for each Design Project can be found in the appropriate customized courseware Project Module, which will be posted on Avenue-to-Learn.

SUBMISSION OF WORK

It is the student's responsibility to ensure assessments are correctly submitted to the correct location, on time, and in the specified format. **Failure to correctly submit an assignment will result in a mark deduction** (see below).

SUBMISSION PENALTIES

Please be aware of the following penalties for Design Project and Lab Assignments:

- Design Project:
 - *Project Milestones*: Worksheets must be **uploaded to Avenue by 11:59am EST on the day after your scheduled Design Studio**, or they will not be graded
 - *Learning Portfolio*: Unless explicitly indicated, all work to be submitted to your online Web Portfolio – including *Milestone Worksheets* and *Final Submissions* – must be **submitted by 11:59pm** on deadline day to be considered for grading
- Labs:
 - Unless otherwise specified, lab mini-milestones must be **uploaded to Avenue by 11:59am EST on the day after your scheduled Lab**, or they will not be graded
 - Submissions must be in the correct format, or will be subject to a mark deduction
- General:
 - It is your responsibility to ensure any electronic submissions can be opened by the TA. Submissions that cannot be opened will not be graded
 - Any Submissions deemed to be partially or fully copied will be considered an academic offence and be subject to terms laid out under the Academic Integrity Policy

COMPLETION OF MAJOR ASSESSMENTS

All Major Assessments must be written. This includes end-of-term Exams in December and April as well as the lab Practicums (in Graphics Design and Computing). Failure to write will result in a final grade of F with the notation DNW (Did Not Write). In a case where the component weight cannot be fulfilled as a result of unforeseen and/or uncontrollable circumstance(s) in the course operation or execution, the grades assigned to that component may be pro-rated.

9. IMPORTANT DATES

September 8, 2020	Fall Classes Begin!
September 8-21, 2020	Design Project 0 (DP-0)
September 22 – November 2, 2020	Design Project 1 (DP-1)
November 3, 2020	DP-1 Presentation
November 4 – December 8, 2020	Design Project 2 (DP-2)
December 9, 2020	DP-2 Presentation
January 6, 2021	Winter Classes Begin!
January 7 – February 24, 2021	Design Project 3 (DP-3)
February 25, 2021	DP-3 Presentation
February 26 – April 9, 2021	Design Project 4 (DP-4)
April 9, 2021	DP-4 Presentation
April 12, 2021	End-of-Year Showcase, Winter Classes End

*Dates subject to change **with** notice.

** Additional Design Project Deadlines can be found in the customized courseware Project Modules.

10. ACCREDITATION

The Graduate Attributes defined in this section are measured for Accreditation purposes only and will not be directly taken into consideration in determining a student’s actual grade in the course. For more information on Accreditation, please visit: <https://www.engineerscanada.ca>. Mapping of the Learning Outcomes outlined in Section 3 above to the Canadian Engineering Accreditation Board (CEAB) Graduate Attributes are outlined in the table below:

MAPPING TO GRADUATE ATTRIBUTES

GRADUATE ATTRIBUTE	LEARNING OUTCOMES
A01 Knowledge Base for Engineering	
1.01 Competence in Mathematics	L0.02
1.02 Competence in Natural Sciences	L0.03
1.03 Competence in Engineering Fundamentals	L0.01, L0.02
1.04 Competence in Specialized Engineering Knowledge	L0.01, L0.02, L0.03
A02 Problem Analysis	
2.02 Demonstrates an ability to identify a range of suitable engineering fundamentals (including mathematical techniques) that would be potentially useful for analyzing a technical problem.	L0.01, L0.02
2.03 Obtains substantiated conclusions as a result of a problem solution including recognizing the limitations of solutions.	L0.06

GRADUATE ATTRIBUTE		LEARNING OUTCOMES
A03 Investigation		
3.02	Selects appropriate model and methods and identifies assumptions and constraints.	L0.02
A04 Design		
4.01	Recognizes and follows an engineering design process.	L0.06
4.02	Recognizes and follows engineering design principles including appropriate consideration of environmental, social and economic aspects as well as health and safety issues.	L0.05, L0.06
4.03	Proposes solutions to open-ended problems.	L0.05, L0.06
4.04	Employs appropriate techniques for generation of creative ideas such as brainstorming and structured inventive thinking.	L0.05, L0.06
4.05	Includes appropriate health and safety considerations.	L0.06
A05 Use of Engineering Tools		
5.02	Demonstrates ability to use modern state-of-the-art tools.	L0.01, L0.02
A06 Individual and Teamwork		
6.01	Manages time and processes effectively, prioritizing competing demands to achieve personal and team goals and objectives.	L0.09
6.03	Works in a group, taking a leadership role as appropriate and relinquishing the leadership role as appropriate.	L0.09
A07 Communication Skills		
7.01	Demonstrates an ability to respond to technical and non-technical instructions and questions	L0.07
7.02	Presents instructions and information clearly and concisely as appropriate to the audience	L0.07, L0.08
7.03	Constructs effective oral or written arguments as appropriate to the circumstances.	L0.07, L0.08
A08 Professionalism		
8.01	Demonstrates an understanding of the role of the engineer in society, especially in protection of the public and public interest.	L0.04
8.02	Demonstrates an understanding of legal requirements governing engineering activities (including but not limited to personnel, health, safety, and risk issues).	L0.04
8.03	Shows an awareness of the PEO and the role of licensing.	L0.04
A09 Impact of Engineering on Society and the Environment		
9.01	Identifies and quantifies the full range of short-term, long-term, local and global impacts of their engineering projects on society, including: economic aspects; social, cultural, and human health aspects, and; ecosystem integrity aspects.	L0.06

GRADUATE ATTRIBUTE		LEARNING OUTCOMES
A10 Ethics and Safety		
10.01	Applies the engineering code of ethics, understanding of the stakeholders: the individual, the employer, and the public.	LO.04
10.02	Applies ethical frameworks and reasoning in situations where there may be conflicting interests among the stakeholders.	LO.04
10.03	Applies knowledge of law and principles of equity to ensure equitable treatment of others.	LO.04
A12 Life-Long Learning		
12.01	Critically evaluates and applies knowledge, methods and skills procured through self directed and self identified sources, including those that lie outside the nominal course curriculum.	LO.10

11. POLICIES

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. **It is your responsibility to understand what constitutes academic dishonesty.**

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. For information on the various types of academic dishonesty please refer to the [Academic Integrity Policy](https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/), located at <https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/>

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. submission of work not one’s own or which other credit been obtained.
2. Improper collaboration in group work.
3. 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 ACCESS

In this course, we will be using **Avenue-to-Learn** and **Microsoft Teams**. Students should be aware that, when they access the electronic components of this course, private information such as first and last names, usernames 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.

ONLINE PROCTORING

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

CONDUCT EXPECTATIONS

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the [Code of Student Rights & Responsibilities](#) (the “Code”). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online**.

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students’ access to these platforms.

ACADEMIC ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Students with disabilities who require academic accommodation must contact [Student Accessibility Services](#) (SAS) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University’s [Academic Accommodation of Students with Disabilities](#) policy.

ACADEMIC ACCOMMODATION FOR RELIEF FOR MISSED ACADEMIC 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”

1. All MSAFs are to be directed to prof1p10@mcmaster.ca. Sending to another email address will delay processing.
2. It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in his/her course.
 - In the event an MSAF is applied to the following lab assessments/assignments, **they will be rescheduled:**
 - Graphics Design Practicum
 - Computing Practicum

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 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 examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

COPYRIGHT AND RECORDING

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

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.

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.

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/>.

PEDAGOGICAL STUDY

For the study of engineering education, you may be asked to provide information or feedback about course components. When possible, the instructor will share these results with participants.

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:

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

This document provides important 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.

General Health and Safety Principles

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

1. Food and beverages are not permitted in the instructional laboratories.
2. A Laboratory Information Sheet on each lab door identifying potential hazards and emergency contact names should be known.
3. Laboratory equipment should only be used for its designed purpose.
4. Proper and safe use of lab equipment should be known before using it.
5. The course TA leading the lab should be informed of any unsafe condition.
6. The location and correct use of all available safety equipment should be known.
7. Potential hazards and appropriate safety precautions should be determined, and sufficiency of existing safety equipment should be confirmed before beginning new operations.
8. Proper waste disposal procedures should be followed.
9. [Personal ergonomics](#) should be practiced when conducting lab work.
10. [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
ABB C103/A

First Aid Kit

ETB 534/A, ABB C103/A, 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 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 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 – 26888
- Parmveer Bola – 23521
- Alexa Huang – 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 floor and scream for help or
3. Wrap with fire blanket to smother flame (a coat or other nonflammable fiber may be used if 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 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're 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 Co-Directors	Dr. Greg Wohl	wohlg@mcmaster.ca
	Dr. Michelle MacDonald	macdonml@mcmaster.ca
IBEHS Administrator	Alexa Behar-Bannelier	huanqa2@mcmaster.ca
IBEHS Course Instructor	Please contact your specific course instructor directly	