IBEHS 1P10A/B

Health Solutions Design Projects I: Introduction to Engineering Fundamentals and Design

Course **Outline**: Fall/Winter Terms (2025-26)

Calendar/Course Description

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.

Pre-Requisites and Anti-Requisites

Prerequisite(s): Registration in the Integrated Biomedical Engineering and Health Sciences (IBEHS) program

Antirequisite(s): ENGINEER 1C03, 1D04, 1P03, 1P13 A/B, MATLS 1M03

Course Schedule

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**.

- *Location*: **Check Mosaic**. Lectures will be recorded and available for viewing afterwards.
  - *** **Select lectures will include a graded in-class assignment.**
    In-class assignments count towards reducing the weight of your mid-year and end-of-year exams as described in the Assessments section (*i.e., attend class to reduce the weight of your exams!*).
- *Objective*: Introduce fundamental topics and are meant to inform lab and project activities

TUTORIALS (DESIGN STUDIO): 1 hour 50 minutes per week (check your schedule on Mosaic).

- *Location*: **Check Mosaic**
- *Objective*: Design Studio is a dedicated time to collaborate as a team on various project activities. Faculty mentors and TA's will be available for support during your scheduled time.

LABORATORIES (LABS): 2 hours 50 minutes/week (check your schedule on Mosaic).

- *Location*: **Check Mosaic**
- *Objective*: Labs introduce and reinforce applications in computing and graphics design. During Lab, your Instructional TA will deliver a short lesson with a series of interactive demonstration. Following the lesson/demo, you will work in small groups on a given assignment.

Instructor Office Hours and Contact Information

Dr. Colin McDonald

cmcdona@mcmaster.ca

Office Hours:

- Times posted to Avenue, but you can always send a message via MS Teams to request an appointment.

Dr. Kyla Sask

ksask@mcmaster.ca

Office Hours:

- Times posted to Avenue, but you can always send a message via MS Teams to request an appointment.

Instructional Team

Instructional Assistant Intern (IAI): Your IAI guides Design Studios and leads the **weekly lab help centre**.

- Pierce Smith, smithp57@mcmaster.ca

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.

- Haaniya Ahmed, ahmedh93@mcmaster.ca
- Erin Herzstein, herzstee@mcmaster.ca
- Samantha Schaus, schaus3@mcmaster.ca
- Janani Sridev, sridevj@mcmaster.ca

Lab Support TAs: Each Lab section will have some of the following TA's.

- Brooke Chow, chowb15@mcmaster.ca
- Ursula Chui, chuiu@mcmaster.ca
- Kudrat Ghotra, ghotrk1@mcmaster.ca
- Varun Kothandaraman, kothandv@mcmaster.ca
- Holly Legere, legereh@mcmaster.ca
- Paria Matipour, matipouf@mcmaster.ca
- Abigal Reeds, reedsa1@mcmaster.ca
- Andrea Siroen, siroena@mcmaster.ca

Design Studio TAs: Each Design Studio will have 1-2 of the following TAs to guide and support project activities.

- Salma Baig, baigs19@mcmaster.ca
- Jala Malcolm, malcoj3@mcmaster.ca
- Maggie Mancuso, mancum2@mcmaster.ca
- Jedidiah Mao, maoj27@mcmaster.ca
- Alexandra Wu, wua37@mcmaster.ca
- Ahmed Zafar, zafara19@mcmaster.ca
- Alina Yingsi Zeng, zenga12@mcmaster.ca

Additional Instructional Support

Instructional Assistant: manages the design studio space; provides training on use of equipment; supports all project and lab activities

Parmveer (Parm) Bola
Email: bolap1@mcmaster.ca

Instructional Coordinator: coordinates scheduling and accommodations

Victoria Olubunmi
Email: olubunmv@mcmaster.ca

Faculty Mentors: Working alongside your TA's, mentors 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.

Course Delivery

Avenue-to-Learn will be the online management system for the course. 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!

Materials and Fees

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**).

The following are a list of **free** materials that we will be referencing during the year:

- How to Think Like a Computer Scientist [dedicated interactive textbook], by Peter Wentworth, Jeffrey Elkner, Allen B. Downey, and Chris Meyers.
- "A Beginners Guide to Python 3 Programming [electronic resource]", by John Hunt, 1st edition.
- "Engineering and Information: Research Skills for Engineers", by Katie Harding, Alanna Carter, Shelir Ebrahimi, and Eva Mueller.
- "Engineering Reflection Guidebook", by Kyle Ansilio, Shelir Ebrahimi, and Alanna Carter
- "New Approaches to Engineering Design Thinking Mindset: Idea Generation", by Shelir Ebrahimi, Kristina Stepanic, Armaghan Taghvaei, and Reza Yazdanpanah.

The following *optional* text is available for purchase:

- "The Science and Engineering of Materials", by Donald R. Askeland, 6th edition. https://www.amazon.ca/Science-Engineering-Materials-Donald-Askeland/dp/0495296023

Software

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

- Autodesk Inventor Professional **2026**
  - Register in the Education Community with your McMaster University email address.
  - To ensure compatibility with campus computers, you must select the correct version (**Autodesk Inventor 2026**) and operating system (**Windows 64-bit**).
- Python 3.8 → an executable installation file is also available to download from the 1P10 Avenue page.
  - This is the *recommended* version. However, newer versions are acceptable.

Hardware

Later in the **Fall Term**, you will be using a Raspberry Pi 4 to complete one of the design projects and a series of lab activities. We do recommend purchasing one from a vendor such as CanaKit or ThePiHut. Alternatively, **Raspberry Pi's can be purchased from the Design Studio**. If purchasing a Raspberry Pi, you will need the **Raspberry Pi 4 Model B** with at least **2GB RAM**.

- The Raspberry Pi requires a minimum **32GB MicroSD Card** for supporting the operating system and storing all your files. A MicroSD card can be purchased from the Campus Store (**$19.99**) or any online vendor.

For select activities, you may need additional accessories if you don't already have them. All accessories are for connecting to a Pi from your laptop and can be purchased from the Campus Store.

USB-C to Micro-SD Adapter. 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. **Price: $69.99**

Ethernet cable: Use this cable to connect your Raspberry Pi to your laptop or home router. **Price: $9.99**

USB-C to Ethernet Adapter: If you want to connect your Pi directly to your laptop, use this adapter if you don't have an ethernet port. **Price: $39.99**

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

Course Objectives and Learning Outcomes

Upon successful completion of the course, the student should be able to:

(ED) Engineering Design	
LO.01	Design a well-thought-out solution to a real-world problem, considering both technical and social implications of that solution
LO.02	Demonstrate the ability of design thinking
(NAS) Natural and Applied Sciences	
LO.03	Demonstrate an understanding of structure, properties, and applications of materials
LO.04	Select materials that satisfy a set of structural, functional, and performance characteristics
(GD) Graphics Design	
LO.05	Demonstrate understanding and application of graphics design principles
LO.06	Design and fabricate a device that meets given specifications
(CP) Computing	
LO.07	Demonstrate understanding and application of engineering computation principles
LO.08	Design an apparatus that integrates software and hardware elements to accomplish a function

(TS)	**Transferrable Skills**
LO.09	Demonstrate effective communication in a breadth of situations
LO.10	Demonstrate effective application of information literacy skills
LO.11	Demonstrate effective teamwork on a design project
LO.12	Plan and manage time effectively to achieve project goals
LO.13	Reflect on both past experiences and what has been learned from these experiences
(EIS)	**Engineering in Society**
LO.14	Explain the duty of engineers and the impact of engineering activities on society
(EEF)	**Ethics and Ethical Frameworks**
LO.15	Apply principles of ethics in problem definition, decision-making, and conflict resolution

Assessments

The course is assessed in four modules: **design projects**, **teamwork and project engagement**, **labs**, and **major assessments** (i.e., exams). The following table summarizes a breakdown of each assessment module.

Please refer to the Completion and Submission of Work section for accommodations due to missed work.

GRADING MODULE	WEIGHT
Design Projects*	**30%**
Design Project 0 (DP-0)	(P/F)
Design Project 1 (DP-1)	(6%)
Design Project 2 (DP-2)	(8%)
Design Project 3 (DP-3)	(8%)
Design Project 4 (DP-4)	(8%)
Teamwork and Project Engagement	**8%**
Administrative Responsibilities	(1.5%)
Peer Evaluation	(1.5%)
Fall-Term Learning Portfolio	(2%)
Winter-Term Learning Portfolio	(3%)
Labs**	**16%**
Fitness Tracking Labs (n=3)	
LEGO Build Labs (n=7)	
Environmental Engineering Labs (n=4)	
Mechanism Design (n=1)	
Robotics Lab (n=1)	
Pokemon Battle (n=1)	
Major Assessments	**46%**
Mid-Year Exam (December) ***	(16%)
Graphics Final Assessment (Week 8, Winter Term)	(7%)
Computing Final Assessment (Week 12, Winter Term)	(7%)
End-of-Year Exam (April) ***	(16%)

* A detailed grading breakdown for each Design Project can be found on Avenue the appropriate Project Module.

** Your lowest lab grade is dropped from the total **Labs** grade calculation.

*** Select lectures will include a **graded in-class assignment** **worth 0.25%**. For each completed in-class assignment, the weight of the exams will be reduced, **up to a maximum reduction of 6%.** (i.e., 0.25% x 12 = 3% for the midyear and 0.25% x 12 = 3% for the end-of-year)

Teamwork and Engagement

Teamwork and engagement will be assessed through a number of means, including individual project deliverables (i.e., administrative responsibilities) submitted as part of project reports, peer evaluations at the end of each project, and a learning portfolio that documents and reflects on project activities.

The **Project Attendance and Engagement** criteria is evaluated based on design studio **attendance** and **engagement**. **Attendance** at weekly design studio's is required and expected. Students missing Design Studio will receive an email notifying them of their absence, at which point they will have an opportunity to respond and provide reason for their absence. **Failure to provide reasoning for an absence will result in a 10% deduction to your project grade for *each occurrence***. **Engagement** is evaluated based on the extent to which you are contributing to your assigned administrative responsibility. **Failure to meet your responsibilities may result in a 5% deduction (0.5-marks) to your teamwork and engagement grade for *each occurrence***. Examples warranting a deduction are outlined in the Administrative Roles and Responsibilities document posted to Avenue.

Completion and 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).

Accommodations for Missed Academic Work

Students who miss work are required to submit a **McMaster Student Absence Form (MSAF)** to be eligible for accommodations. Please note the following accommodations and eligibility requirements:

- **Design Project *Team* Milestones**: Design project milestones completed in teams are graded based on completion and feedback, but do not count towards your project grade.
    - Students submitting an **MSAF** for a team-based milestone will not be penalized for design studio absence as outlined in the Teamwork and Engagement section of the course outline.
- **Design Project *Individual* Milestones**: Select individual milestones will count towards your project grade, while others are only treated as pass/fail (where milestone completion and submission designate a pass).
    - Students submitting an MSAF for an individual milestone will have the weight of the missed milestone moved towards the individual final deliverables of that project.
- **Design Project Final Deliverables**: Project final submissions are completed in teams and include an individual component. Accommodations will only be granted for **administrative report MSAFs** and will only be discussed after the student reaches out to the instructor via email (prof1p10@mcmaster.ca). Accommodations may include completion of individually assigned work associated with the project.
- **Lab Assignments**: Lab assignments are completed *during* your scheduled lab and *require* attendance. As outlined in the Assessments section of this outline, your lowest lab grade is dropped from the total **Labs** grade calculation.
    - If a student does not submit their lab assignment, a **grade of 0** will be assigned for that assignment and the *next lowest lab grade* will be dropped from the labs grade calculation.
    - If a student submits a **self-report MSAF**, the missed lab will be treated as the lowest lab grade and will be dropped from the labs grade calculation.
    - If a student submits an **administrative report MSAF**, relief will be discussed with the instructor.

- **In-Class Assignments**: In-class assignments are completed *during* lecture and *require* attendance. If a student is absent from lecture or submits an MSAF, the weight of the missed/MSAF'd in-class assignment will be moved to the exam (mid-year or end-of-year, depending on the date of the missed lecture).
- **Teamwork and Project Engagement**: accommodations for this module will depend on the assessment.
    - If a student submits an MSAF for either their **Administrative Responsibilities** or **Peer Evaluation**, the weight of the missed work will be moved to the individual final deliverables of that project.
    - If a student submits an MSAF for either **Learning Portfolio**, the date of submission will be extended up to a maximum of **14 days**.
- **Major Assessments**: All major assessments must be written.
    - **Exams**: MSAFs cannot be reported for either the mid-year or the end-of-year exam.
        - If missing an exam due to medical or personal reasons, the deferred exam process should be followed in applying for a deferral.
    - **Graphics/Computing Final Assessment**: a student submitting an MSAF for either final assessment will have the date of their assessment rescheduled.
        - In a case where the component weight cannot be fulfilled as a result of unforeseen and/or uncontrollable circumstance(s), the grades assigned to that component may be pro-rated.

Submission Penalties

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

- All worksheets and assignments must be uploaded to Avenue by the posted deadline, or they will be subject to a **late penalty of 20% per day**.
- Submissions must be in the correct format, or they will be subject to a minimum **5% deduction**.
    - It is your responsibility to ensure any electronic submissions can be opened by the TA
- **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**.

Grading Concerns

Grades for lab assignments and design project work will be posted to Avenue as soon as possible upon completion. We ask that you reach out within 7 days from the date your grade is posted to address any concerns you may have to instructional team.

- Any questions/concerns must be addressed electronically through an email to prof1p10@mcmaster.ca.
- Concerns with regards to grading will not be considered without submitting through the appropriate channels (i.e., the prof1p10 email).

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 (i.e., 8:30am – 5:30pm)? 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.

- Emailing is also acceptable during scheduled class hours.

Important Dates

Fall Term	
Tuesday September 2	Fall Classes Begin!
September 4 – 17	Design Project 0 (DP-0)
September 18 – October 22	Design Project 1 (DP-1)
Tuesday September 30	**National Day for Truth and Reconciliation (no classes)**
October 13 – 17	**Fall Reading Week (no classes)**
Thursday October 23	**DP-1 Presentation (*evening*)**
October 24 – December 4	Design Project 2 (DP-2)
Thursday December 4	**DP-2 Presentation (*evening*)**
December 6 – 19	**Fall Term Examinations** (the date of the **Midyear Exam** is TBD)
Sunday January 4	**Fall Term Learning Portfolio is Due!**
Winter Term	
Monday January 5	Winter Classes Begin!
January 6 – February 23	Design Project 3 (DP-3)
February 16 – 20	**Winter Reading Week (no classes)**
Tuesday February 24	**DP-3 Presentation (*evening*)**
February 24 – April 6	Design Project 4 (DP-4)
March 2 – 6	**Graphics Design Final Assessment (completed during scheduled lab)**
March 30 – April 3	**Computing Final Assessment (completed during scheduled lab)**
Friday April 3	**Good Friday (no classes)**
Monday April 6	**DP-4 Presentation (*afternoon/evening*)**
Tuesday April 7	End-of-Year Showcase
Tuesday April 7	Winter Classes End **, Winter Term Learning Portfolio is Due!**
Wednesday April 8	No classes
April 9 – 23	**Winter Term Examinations** (the date of the **End-of-Year Exam** is TBD)

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.

Statement on Use of Generative AI in 1P10

Generative AI tools make you stupid. Students are not permitted to use generative AI in this course. In alignment with McMaster academic integrity policy, it "shall be an offence knowingly to … submit academic work for assessment that was purchased or acquired from another source". This includes work created by generative AI tools. Also state in the policy is the following, "Contract Cheating is the act of "outsourcing of student work to third parties" (Lancaster & Clarke, 2016, p. 639) with or without payment." Using Generative AI tools is a form of contract cheating. Charges of academic dishonesty will be brought forward to the Office of Academic Integrity.

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 course **Learning Outcomes** to the Canadian Engineering Accreditation Board (CEAB) **Graduate Attributes** are outlined in the table below:

Graduate Attribute	Learning Outcome(s)
GA01 - Knowledge Base for Engineering	
1.2 – Competence in natural sciences	LO.03
1.3 – Competence in engineering fundamentals	LO. 04, LO.05, LO.07
GA02 Problem Analysis	
2.1 – Identifies and states reasonable assumptions and suitable engineering fundamentals, before proposing a solution path to a problem.	LO.04, LO.06, LO.08
2.2 – Proposes problem solutions supported by substantiated reasoning, recognizing the limitations of the solutions.	LO.04, LO.06, LO.08
GA03 Investigation	
3.2 - Synthesizes the results of an investigation to reach valid conclusions.	LO.01
GA04 Design	
4.1 – Defines the problem by identifying relevant context, constraints, and prior approaches before exploring potential design solutions.	LO.01, LO.02
4.2 – Explores a breadth of potential solutions, considering their benefits and trade-offs as they relate to the project requirements.	LO.01, LO.02
4.3 – Develops models or prototypes, tests, evaluates, and iterates as appropriate.	LO.01-02, 06-08
4.4 – Justifies and reflects on design decisions, considering limitations, assumptions, constraints and other relevant factors.	LO.01, LO.04
GA05 Use of Engineering Tools	
5.2 – Successfully use engineering tools.	LO.05 – LO.08
GA06 Individual and Teamwork	
6.1 – Actively contributes to the planning and execution of a team project.	LO.11
6.2 – Manages interpersonal relationships, taking leadership responsibilities as needed.	LO.11
GA07 Communication Skills	
7.1 – Demonstrates comprehension of technical and non-technical instructions and questions.	LO.09
7.2 – Composes an effective written document for the intended audience.	LO.09

7.3 – Composes and delivers an effective oral presentation for the intended audience.	LO.09
GA08 Professionalism	
8.1 – Describes the duty of a Professional Engineer to the public, client, employer, and the profession.	LO.14
GA09 Impact of Engineering on Society and the Environment	
9.2 – Evaluates social impact of engineering activities, including health, safety, legal, cultural, and other relevant factors; identifies uncertainties in decisions.	LO.01, LO.14
GA10 – Ethics and Equity	
10.1 – Applies ethical frameworks and reasoning, including in situations where there are possible conflicting interests among the stakeholders.	LO.15
10.2 – Applies the principles of equity and universal design to ensure equitable treatment of all stakeholders.	LO.01, LO.14
GA11 – Economics and Project Management	
11.2 – Plans and effectively manages a project's time, resources, and scope, following business practices as appropriate.	LO.12
GA12 – Life-Long Learning	
12.1 – Critically assesses one's own educational needs and opportunities for growth	LO.13
12.2 – Seeks and acquires appropriate external information as required, including showing awareness of sources of information and ability to critically evaluate them.	LO.10

For more information on Accreditation, please visit: https://www.engineerscanada.ca

CEAB Accreditation Units:

50% Engineering Design, 25% Engineering Science, 25% Complementary Studies

McMaster Approved Policy Statements

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 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, located at https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/

The following illustrates only three forms of academic dishonesty:

- Plagiarism, e.g., submission of work not one's own or which other credit 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 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 the following website: www.mcmaster.ca/academicintegrity.

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 Religious, Indigenous, or Spiritual Observations (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.

Academic Accommodations 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".

- To avoid delay's in processing, all MSAFs must be directed to prof1p10@mcmaster.ca.
- It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in his/her course. Refer to the Completion and Submission of Work section of this outline for details.

Courses with an On-Line Element

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.

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.

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/.

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.

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.