

ENG 1P03 2018 Course Outline

Engineering Profession and Practice

Contents

Contents.....	1	Email Etiquette.....	9
Contact Information	2	Missed Work	9
Instructor	2	Lecture and Tutorial Sections	9
Instructor	2	Academic Integrity	9
Course Coordinator.....	2	Turnitin.com	10
Instructional Assistant Interns (IAIs) & Teaching Assistants (TAs)	2	Avenue to Learn.....	10
Scheduling.....	3	Course Modification	10
Online Course Management.....	3	Appeals	10
Course Objectives	3	Discrimination	10
Materials & Fees	4	Health and Safety	11
Course Overview and Assessment	5	Ethics Protocol	11
Quizzes, Midterm and Final Exam (40%)	5		
Project Work (60%).....	5		
McMaster Engineering Competition.....	6		
Schedule of Content.....	7		
Schedule of Deliverables.....	8		
Policy Statements.....	9		

Administrative Details

Contact Information

Instructor



Robert V. Fleisig, Ph.D., P.Eng.
Associate Professor
Walter G. Booth School of Engineering Practice
Email: robert.fleisig@mcmaster.ca
Office: ETB 503
Office hours: Mondays 1 PM – 2 PM
Twitter: [@ENG1P03](https://twitter.com/ENG1P03) @RobertFleisig

Instructor



Elizabeth Hassan, Ph.D., P.Eng.
Assistant Professor
Department of Mechanical Engineering
Email: hassae3@mcmaster.ca
Office: ETB 109
Office Hours: Thursdays 1PM – 3 PM
Twitter: @Liz_Hassan

Course Coordinator



Jessica Anderson
Office: ETB 110
Office hours: Mon-Fri 9 AM – 12 PM or by appointment
Email: engic@mcmaster.ca

Instructional Assistant Interns (IAIs) & Teaching Assistants (TAs)

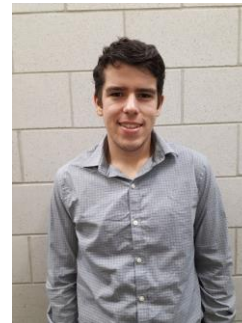
You will meet your IAIs and some of your TAs in tutorial. One of the following IAIs will be in your tutorial all term long:



Sean Angel
Email: angels@mcmaster.ca
Office: ETB 120
Office hours: Mondays 12:30 PM – 1:30 PM, Thursdays 11:30 AM – 12:30 PM

Gabriel Castanger

Email: castaggj@mcmaster.ca
Office: ETB 120
Office hours: Tuesdays 11:30 AM – 12:30 PM, Fridays 2:30 PM – 3:30 PM



Zachary Smith
Email: smithz3@mcmaster.ca
Office: ETB 120
Office hours: Wednesdays 10:30 AM – 11:30 AM, Fridays 9:30 AM – 10:30 AM

For the final project only, one of the following TAs will be in your tutorial in addition to one from the above list:

Maikel Abdelsayed	abdelsma@mcmaster.ca
Jun Woo Choi	choij10@mcmaster.ca
Patrick Enman	enmanpj@mcmaster.ca
Rachel Fernandez	fernanc@mcmaster.ca
Nathan Gomes	gomesn1@mcmaster.ca
Emilija Ilijevska	ilijevse@mcmaster.ca
Nitesh Mistry	mistrn6@mcmaster.ca
Mostafa Okasha	okashm@mcmaster.ca
Daniya Thambithurai	thambitd@mcmaster.ca
Mitchell Wong	wongm22@mcmaster.ca
Fatemeh Yazdanpanah	yazdaf3@mcmaster.ca
Monika Jara	jaram@mcmaster.ca
Mithilan Muralitharan	muralitm@mcmaster.ca

The following TAs will be marking, and you may not see them in tutorial:

Aly AlSamouly	alsamoua@mcmaster.ca
Ali Ahmed Fuad	alia78@mcmaster.ca
Kierdra Dowling	dowlingk@mcmaster.ca
Jilian Ma	maj10@mcmaster.ca
Marina Manoraj	manorajm@mcmaster.ca
Alexander Mo	moa1@mcmaster.ca
Davin Power	powerdj@mcmaster.ca
Ranveer Reehal	reehalr@mcmaster.ca
Ann Huynh	huynht3@mcmaster.ca
Frank Shi	shif3@mcmaster.ca
Shakil Savji	savjis1@mcmaster.ca
Xavier Xu	xuy116@mcmaster.ca

Scheduling

- ENG 1P03 is scheduled for the Fall Term of the Fall/Winter Session 2018-2019.
- The course is comprised of 25 fifty-minute lectures and 12 one hour and fifty-minute tutorials scheduled by the Registrar. See <https://mosaic.mcmaster.ca> for dates, times, and locations. All lectures and tutorials are mandatory.
- Classes (lectures and tutorials) begin Wednesday, September 5th, 2018.
- The midterm is scheduled for Thursday, October 4th, 2018 at 7 PM. Locations will be announced shortly prior to the tests.
- The Registrar will schedule the final examination. See Mosaic > Student Centre > Academics Section > Exam Schedule for a date, a time, and locations later in the term.
- Due dates for work submitted outside of class will be posted on the Avenue Calendar and Avenue Dropbox.

Online Course Management

- Avenue (<http://avenue.mcmaster.ca>) will be used extensively in the course for team collaboration and communication, individual and team submission of work, sharing of course materials, grades, etc.

Course Objectives¹

By the end of the course students should be able to

¹ For the official description of ENGINEER 1P03 see [2018-2019 Undergraduate Calendar](#)

- In designing a device,
 - to learn from others including clients, users, peers, more experienced engineers, and non-engineers;
 - to prototype intentionally and iteratively, using each iteration as an opportunity to learn, explore new ideas and improve the design;
 - to synthesize information and data from multiple sources (qualitative and quantitative) to define a design problem, criteria, constraints, and requirements;
 - to embrace ambiguity and open-ended problems;
 - to approach the problem and solution creatively throughout the design process;
 - to effectively and deliberately communicate design work;
 - contribute effectively as a member of an engineering design team;
- Make a professional presentation;
- Critique your peers' work in a professional manner;
- Explain the roles and responsibilities of a Professional Engineer in Canada;
- Identify ethical issues using the PEO Code of Ethics;
- Explain the health and safety responsibilities of a Professional Engineer; and
- Explain the problems, issues, and importance of sustainability with respect to engineering.

Materials & Fees

You are required to obtain the following from the bookstore.²

1. The customized textbook *Engineering Design*, ENG 1P03, Fall 2018. ISBN: 978-1-119-45722-0 Each member of the student team must purchase this item: one per person.
2. The customized textbook *Professional Engineering in Canada*, ENG 1P03, Fall 2018. ISBN: 97813233881521

The following is recommended but optional. This item can be obtained in the bookstore.

3. The textbook *Making Sense in Engineering and the Technical Sciences: A Student's Guide to Research and Writing*, fourth edition by Northey and Jewinski.

The course does not entail any fees. However, you will be required to construct a prototype for your final project. You must cover those expenses out of your own pocket.

You must cover printing costs and the costs associated with the poster out of your own pocket.

² Also see [Campus Bookstore Textbook List](#)

Course Overview and Assessment

Quizzes, Midterm and Final Exam (40%)

Key	Item	Weight
GT	Midterm	10
GE	Final Exam	26
GQxx	Weekly Quizzes	4

The 25 lectures and readings will be assessed through three written examinations: ten (10) quizzes on Avenue, the midterm, and the final exam.

The quizzes will be available on Avenue and will evaluate the required readings. Note that the quizzes are not equally weighted. At the end of the term, the **lowest quiz mark will be dropped**.

The midterm will be held early in the term and will cover lectures and readings leading up to the test.

The final exam will be held during the final examination period. If any of the individual items (except the final exam) is missed, its weight will be redistributed onto the remaining items provided an approved MSAF has been received by the Course Coordinator otherwise a grade of zero will be recorded for the missed work.

If the final exam is missed a grade of 'F' will be recorded for the course. The final exam may be deferred with the permission of the Associate Dean (Academic).

Project Work (60%)

Key	Item	Weight
GD1a	LinkedIn Profile	1
GD1b	TMC	0.5
GD2a	DE2 Functional Analysis	0.5
GD2b	DE2 Morphological Chart	1
GD2c	DE2 Design Alternatives	0.5
GD2d	DE2 Building and Testing	0.5
GD3	DE2 Presentations	0.5
GD4a	Research Assignment Part 1	1
GD4b	Refined Problem Statement	1.5
GD4c	Objective Tree and Metrics	2
GD5a	Project Plan	1
GD5b	Design Alternative 1	4
GP1	ITP-Metrics Peer Evaluation 1	0.5
GD6	Decision Matrix	1
GD7	Design Review 1	0.5
GD8a	Research Assignment Part 2	1
GD8b	Design Alternative 2	4
GP2	ITP-Metrics Peer Evaluation 2	0.5
GD9	Design Review 2	0.5
GD10	Design Refinement	1
GD11a	Practice Presentations	0.5
GD11b	Student Feedback	0.5
GD12a	Final Report	25
GD12b	Final Presentations	8
GD12c	Individual Reflection	1
GP3	Peer Evaluation	2

If any of the individual items is missed, its weight will be redistributed onto the remaining items provided an approved MSAF has been received by the Course Coordinator otherwise a grade of zero will be recorded for the missed work.

All the above items will be announced in tutorial and/or available on Avenue or the Custom Courseware.

Any late project work will be assessed a grade of zero.

A final peer evaluation will be used as input to the report and proposal grades.

McMaster Engineering Competition

The McMaster Engineering Competition is an annual competition hosted by the McMaster Engineering Society. McMaster Undergraduate Engineering Students have the opportunity to participate in this competition and advance to higher levels such as the Ontario Engineering Competition and finally, the Canadian Engineering Competition. ENG 1P03 students are encouraged to participate at the MEC and as a result, can obtain **bonus marks** as follows:

1st Place Team	1.5 %
2nd Place Team	1 %
3rd Place Team	0.5 %

Schedule of Content

Week Number	Lecture A Topic	Lecture B Topic	Tutorial Work
1	Introduction/Project Overview	Design, Sketching & Functional Analysis	The Marshmallow Challenge
2	Client Visit & Project Process	The Design Project & Research	Fischertechnik Design Exercise
3	Functional Analysis, Concept Generation & Problem Definition	Problem Definition & Objective Trees	Project Selection
4	Constraints & Prototyping	Creativity & Ideation	Project Definition
5	Client Revisit	Metrics & Decision Matrices	Concept Generation
6	Research, IP & IEE	Design Review Speakers	Concept Selection
7	Universal Design	Project Deliverables & Communication	Design Review #1
8	Kingsgate Case Study	Feedback & Greeting	Concept Integration
9	Intro Professional Engineering	Guest Speaker	Design Review #2
10	Climate Change- Lee Norton	Sustainability & Intro to Professional Engineering	Refinement
11	PEO Guest — Tracey Caruana	Ethics Case Studies	Practice Presentations
12	Profession & Practice — Chris Glencross	Safety	Pitch Proposals
13	Exam Review		

Schedule of Deliverables

Week	Course Deliverable	Due Date	Weight on Final Grade
1	LinkedIn Profile	The night of your tutorial 1.0 @ 11:59 pm	1
	In Tutorial: Marshmallow Challenge	The night of your tutorial 1.0 @ 11:59 pm	0.5
2	Quiz 1B	18-Sep @ 8 am	0.333
	Quiz 2B	18-Sep @ 8 am	0.333
	In Tutorial: Fischertechnik Activity	The night of your tutorial 2.0 @ 11:59 pm	2
3	Quiz 3B	25-Sep @ 8am	0.333
	In Tutorial: Fischertechnik Presentations	In Tutorial 3.0	0.5
4	In Tutorial: Refined Problem Statement	The night of your tutorial 4.0 @ 11:59 pm	1.5
	In Tutorial: Objective Tree & Metrics	The night of your tutorial 4.0 @ 11:59 pm	2
	Research Assignment 1	The night of your tutorial 4.0 @ 11:59 pm	1
5	Project Plan	The night of your tutorial 5.0 @ 11:59 pm	1
	Midterm	Thursday, October 4 th @ 7:00 pm	10
	In Tutorial: Design Alternative 1	The night of your tutorial 5.0 @ 11:59 pm	4
	In Tutorial: ITP-Metrics Peer Evaluation 1	The night of your tutorial 5.0 @ 11:59 pm	1
6	In Tutorial: Decision Matrix	The night of your tutorial 6.0 @ 11:59 pm	1
	Quiz 5B	23-Oct @ 8am	0.333
	Quiz 6B	23-Oct @ 8am	0.333
7	In Tutorial: Design Review 1	The night of your tutorial 7.0 @ 11:59 pm	0.5
	Quiz 7B	30-Oct@ 8am	0.333
8	Research Assignment 2	The night of your tutorial 8.0 @ 11:59 pm	1
	In Tutorial: Design Alternative 2	The night of your tutorial 8.0 @ 11:59 pm	4
	ITP-Metrics Peer Evaluation 2	??	1
	Quiz 8B	06-Nov @ 8am	0.333
9	Design Review 2	The night of your tutorial 9.0 @ 11:59 pm	0.5
10	In Tutorial: Design Refinement	The night of your tutorial 10.0 @ 11:59 pm	1
	Quiz 10B	20-Nov @ 8am	0.333
11	In Tutorial: Practice Presentations	The night of your tutorial 11.0 @ 11:59 pm	0.5
	Student Feedback	??	0.5
	Quiz 11B	27-Nov @ 8am	0.333
	In Tutorial: Final Presentations	In tutorial 12.0	8
12	Individual Reflection	December 4th @ 11:59	5
	Final Report	December 4th @ 11:59	25
	ITP-Metrics Peer Evaluation 3	??	2
	Quiz 12B	04-Dec @ 8am	0.333

Policy Statements

Email Etiquette

- When contacting university faculty and staff, always send your email from your McMaster University account. If you use another email address such as Gmail your email will be ignored because you cannot be positively identified as a student at McMaster University.
- When contacting ENG 1P03 faculty and staff via email, always preface the subject with “ENG 1P03:” otherwise your email may not be read in a timely manner.
- Always begin your email with a salutation. For example, “Dear Dr. Fleisig”.
- Always end your email with your full name and student number.

Missed Work

Should any work be missed with valid reason, a student may apply for special consideration using the Missed Work Form Self Reporting Tool available in MOSAIC Student Centre (in the drop-down menu under Academics) (MSAF). For policies that govern the MSAF system, please refer to MOSAIC. If the MSAF Form is issued then the student must obtain an approval and a course of action from the Course Coordinator.

Any MSAFs that are not sent to engic@mcmaster.ca will be ignored. Any MSAF that does not reference the correct grade key (i.e., ‘GD1a’ for the Avenue Profile) associated with the missed work will be ignored.

Lecture and Tutorial Sections

All changes to lecture and tutorial sections must be made via [MOSAIC](#). If there are no seats available you will have to speak with Ms. Sally William, Student Advisor (Ext. 24646, JHE H301, willsal@mcmaster.ca).

It is the responsibility of the student to ensure that the tutorial section you attend is the section you are a member of. Failure to do so may result in missed work.

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:

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.

Turnitin.com

In this course we will be using a web-based service ([Turnitin.com](http://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://turnitin.com/en_us/about-us/privacy-center/usage-policy.

Avenue to Learn

In this course we will be using Avenue to Learn. 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 email 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.

Course Modification

The Instructor reserves the right to change dates and/or deadlines etc. for any or all course elements in the case of an emergency situation or labour disruption or civil unrest/disobedience, etc.

Appeals

If an appeal becomes necessary, the student will initiate it. The successive levels for an assignment or tutorial appeals are:

1. Teaching Assistant responsible for the grade,
2. Instructor,
3. Associate Dean, and
4. Senate Review Board Academic.

For an appeal of an exam/test grade, the appeal process begins with the Instructor.

All levels of appeal shall be by the submission of a written request that is signed and dated (an email is not suitable). Each step of the appeal procedure should be completed as soon as possible, but not later than ten calendar days from the date of the action or decision giving rise to the appeal.

Students who are repeating the course for any reason shall repeat it in its entirety, unless an exception is granted. Application for exception is to be submitted in writing to the course Instructor within the first week of lecture.

Discrimination

The Faculty of Engineering is concerned with ensuring an environment that is free from all adverse discrimination. If there is a problem that cannot be resolved by discussion among the persons concerned, then individuals are reminded that they should contact the Engineering 1 Director, the Sexual Harassment Office, or the Human Rights Consultant, as soon as possible.

Health and Safety

The Faculty of Engineering is committed to McMaster's University Workplace and Environmental Health and Safety Policy which states: "Students are required by University policy to comply with all University health, safety and environmental programs".

It is your responsibility to understand McMaster University Workplace and Environmental Health and Safety programs and policies. For information on these programs and policies please refer to McMaster University Environmental and Health Support Services Occupational Safety Risk Management Manual at: <http://www.workingatmcmaster.ca/rmm/>.

It is also your responsibility to follow any specific Standard Operating Procedures (SOPs) provided for some of the experiments and the laboratory equipment.

Ethics Protocol

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. The policy is included to ensure that students understand and uphold a high level of ethical practice when performing stakeholder research or any sort of information collection.

Research misconduct is defined to include the following in proposing, conducting or reporting research:

- Misrepresentation, fabrication, or falsification of data;
- Plagiarism, including plagiarism of one's own work;

- Abuse of confidentiality with regard to information and ideas taken from manuscripts, grant applications, or discussions held in confidence;
- Other kinds of misconduct, such as: violation of the regulations of the granting bodies; improper use of funds, equipment, supplies, facilities, or other resources; failure to respect University policies on use of human subjects or animals; falsification or misrepresentation of credentials;
- Failure to reveal any material conflict of interest to the sponsors or to those who commission work or when asked to undertake reviews of research grant applications or manuscripts for publication, or to test products for sale or distribution to the public; or
- Failure to reveal to the University any material financial interest in a company that contracts with the University to undertake research, particularly research involving the company's products. Material financial interest includes ownership, substantial stock holding, a directorship, significant honoraria or consulting fees but does not include routine stock holding in a large publicly traded company.

The University demands integrity in the conduct of research. It expects ethical behaviour in respect to authorship and appropriate acknowledgement of research contributions. It is recognized that there are varying degrees of severity in violation of standards of research conduct. Further, there will be cases where disputes may arise which do not clearly involve misconduct but rather are differences of opinion as to what is considered ethical behaviour.

In cases where research misconduct is at issue, the University will take action as described in the document, "Procedures for Inquiries and Hearings Regarding Allegations of Misconduct in Research", unless the individual being accused is a student carrying out research as part of his or her academic programme. In that case, action will be taken as described in the document, "Senate Resolutions on Academic Dishonesty". The University will impose sanctions on those who have committed research misconduct.