Praxis I Syllabus

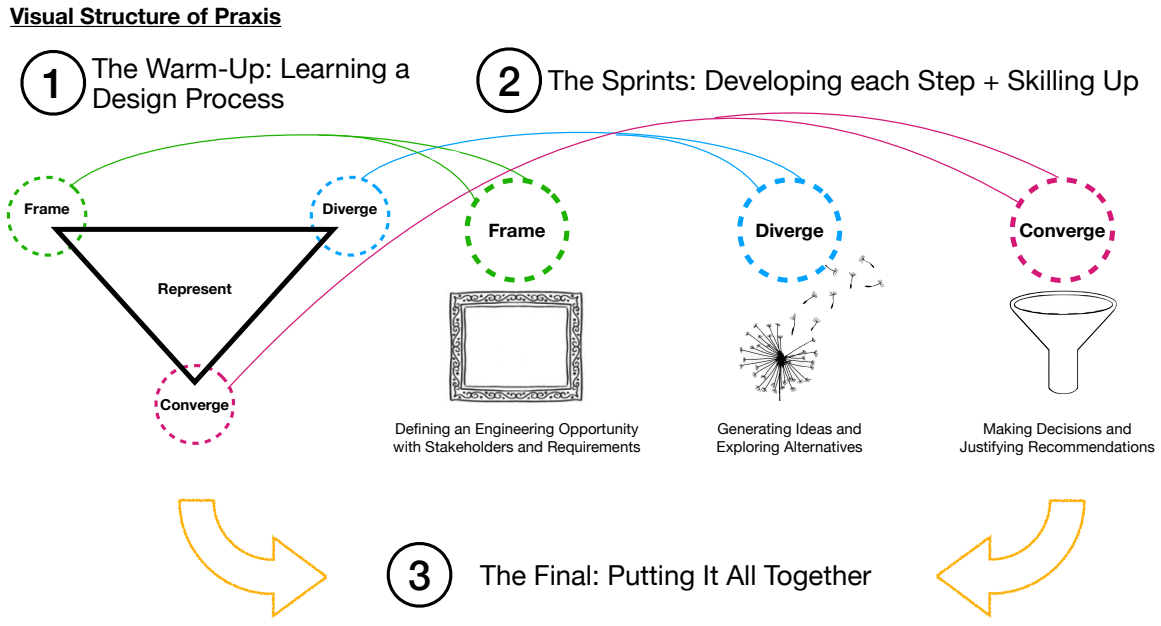
This document should be understood in conjunction with the Praxis I Course Outline. This document outlines course policies and expectations, whereas the Course Outline details assignments and schedules.

1. Course Overview

Praxis I is a course that will change the way you perceive and interpret the world; it is your first course in developing the skills and attitudes that will allow you to think and practice like an engineer. Design is central to an engineering education – indeed, it distinguishes engineering as a profession. Design also provides a context in which to apply other elements of an engineering education, such as the natural and engineering sciences. Further, Design requires not just knowledge but also analysis, judgment, and reasoning.

The Praxis approach to teaching and learning emphasizes balancing abstract theory with concrete practice, and in particular the rigour of applied science and the judgment of engineering. It also acknowledges that engineering is a diverse profession with many perspectives and approaches to practice. As such students in Praxis are invited – and challenged – to develop their individual approach to engineering design, communication, teamwork, and leadership, while still practicing in accordance with professional norms, expectations, and responsibilities.

Praxis I is structured into a sequence of four activities: a design foundation and three sprints based around a simplified engineering design process as shown in Figure 1.



The goal is that students will have the chance to learn a design process—which they will start to customize into their own approach as they proceed further in design work. The design foundation takes students through the entirety of the simplified process early in the semester. Each of the subsequent sprints takes students deeper into one of the three elements of that process.

Praxis I lays the foundation in three key areas of engineering:

- Design: as the first course in the Engineering Science Design sequence (sometimes referred to as the program's "Design Spine") Praxis I lays the foundation for future design courses in Engineering Science, establishes key concepts and approaches to engineering design, and provides students with a vocabulary and set of tools for practicing engineering design. Praxis I introduces students to "engineering (design) habits of mind" which they will continue to apply throughout their engineering education and career.
- Communication: Praxis I serves as the introductory communication course in Engineering Science and as such introduces students to university-level writing, research, and oral presentation.
- Teamwork: Praxis I is the introductory Engineering Science course in professional practice and as such introduces students to key concepts in, and approaches to, teamwork, leadership, and professionalism.

2. Learning in a Global Pandemic

This course offers a place where students come together to explore ideas, learn about themselves as designers and individuals, and build community. Although we cannot come together in person this semester, the course team will work hard to support you and your learning, and do our best to cultivate a sense of community.

University of North Carolina Religious Studies Professor Brandon Bayne produced a new syllabus for the summer 2020 edition of his course, addressing the pandemic directly. We've borrowed several of his ideas, with gratitude to Professor Bayne:

1. Nobody signed up for this:
   - Not for illness, not for physical distancing, not for the sudden end of our collective lives together on campus
   - Not for an online class, not for teaching remotely, not for learning from home, not for mastering new technologies.
2. The humane option is best:
   - We are prioritizing supporting each other as humans.
   - We are prioritizing simple solutions that make sense for the most but acknowledge that individual needs may require accommodation.
   - We are prioritizing sharing resources and communicating clearly.
3. Online is different: some assignments and expectations are no longer reasonable or possible; however, the online environment also affords new opportunities. We will try to take advantage of the best and mitigate the worst.
4. We will foster intellectual nourishment, social connection and personal accommodation through accessible asynchronous content to build knowledge; and synchronous learning to foster opportunities for review, reflection, and community.
5. We will remain flexible and adjust to the situation
   - Nobody knows where this is going and what we'll need to adapt
   - Everybody needs support and understanding in this unprecedented moment.

3. Praxis Learning Outcomes

In completing Praxis I, students will **balance theory with practice** as they demonstrate the ability to **intentionally and reflectively**:

1. Express an engineering identity that integrates personal values with those of the Engineering profession
2. Practice engineering design with integrity between their actions and their engineering identity
3. Represent engineering designs in a variety of modalities
4. Make engineering arguments using engineering-appropriate forms of evidence and reasoning
5. Work effectively both individually and as part of a team.

4. Resources

4.1. Hardcopy Resources

Irish, R., *Writing in Engineering: a brief guide*. Oxford, 2016.

This textbook focuses on developing strong arguments and structuring them into key engineering report types (as design reports, recommendations, etc.). As such, you should find it useful not only for Praxis, but for all of your writing in school and beyond.

4.2. Electronic Resources

Quercus:	available through `https://q.utoronto.ca`
Surveys:	`https://surveys.enginering.utoronto.ca`
Teamwork Support:	`https://teamlearning.ilead.utoronto.ca`

5. Activities

5.1. Asynchronous Lecture Resources (Posted on Quercus)

Each week, we will post a few short pieces of lecture material. These may be videos, pieces of text to be read, specific diagrams that will need some work to interpret. Students should generally view the videos ***before*** the synchronous lectures. These materials should require no more than one hour (equivalent to a lecture).

5.2. Synchronous Lectures (Monday 1300-1400 • Tuesday 1300-1400)

Synchronous lectures will generally build on concepts introduced in the asynchronous material, and focus on application or deepened understanding required to successfully complete the course, through such things as examples of how concepts can be and have been applied, and connections among materials from both within and outside of Praxis I.

5.3. Design Studios ("Tutorial"; 2 scheduled hours per week)

Studios bridge the material presented and discussed in lecture with the course deliverables. Each Studio has specific learning objectives and consists of targeted activities that develop skills which contribute to upcoming deliverables. Students work both individually and in teams to have experiences and meet learning objectives specific to the Studio. Thus, active participation in Studio is essential to success in Praxis.

6. Workload

Students are expected to spend on average one (1) hour outside of class for every one (1) hour of classroom time (i.e. five (5) hours per week per student). This workload may not be distributed evenly across the term.

Students who find themselves investing an inordinate amount of time or effort in a Praxis assignment should contact the Teaching Team immediately to explore different approaches that may increase both their efficiency and effectiveness.

7. Individual Writing Mastery

The Engineering Faculty's English Proficiency Requirement requires students to demonstrate proficiency at written communication in order to proceed in their program. In Engineering Science, Praxis I serves as that course. Successful completion of the written and oral components of Praxis I is considered sufficient to demonstrate such proficiency:

> The Faculty requires each student to show an ability to write English coherently and correctly in all written work submitted for evaluation. … Every student will [ ] take at least one course that includes a written communication component within their curriculum. Satisfactory completion of the course or courses is required for graduation. (*Calendar*, FASE, 2019-2020, Academic Regulations VI.3.)

Students in Praxis I must demonstrate individual mastery of writing to be ready to proceed into the more team-oriented work of Praxis II, where such skills are required.

Accordingly students must earn a satisfactory or higher on the "communication" assessment on at least one (≥1) of the in-term individual written assignments <u>and</u> on the Final Exam. Students who do not achieve this level of performance in this competency will receive a failing grade of 40% (or their earned grade, if lower) in Praxis I and will be required to repeat the course.

8. Teams

8.1. Team Formation

In Praxis I all students must work in teams. Student teams will be formed algorithmically with the objective of creating diverse teams that provide rich learning environments in which every student can contribute. Team formation takes as input the class's responses to the "Welcome to EngSci" survey, Teaching Team observations from Studios, and other relevant information. In limited instances the Teaching Team may modify the algorithmic results to accommodate (e.g.) accessibility or other concerns.

8.2. Team Grades

When working in teams, students are expected to divide workload equitably. The nature of the division is up to the team, and does not require that all members work the same hours or produce identical volumes of work. By default, all team members receive an identical grade on team assignments.

Team deliverables are only acceptable having been completed by a "team" – an individual student cannot complete work designated as a team deliverable without the prior, documented approval of the Teaching Team. Submitting a team deliverable as an individual will be deemed a non-submission as it failed to meet a fundamental objective of the assignment.

8.3. Team Challenges

Students should report any difficulties in their teams to a member of the Teaching Team as early as possible so that the difficulties can be addressed in a positive and constructive way. Students should also maintain as

complete a record of team interactions as possible[1]. Based on solicited, confidential feedback, the Course Instructors may intervene in a team**. Such interventions include – but are not limited to – adjusting the grade distribution within a team or removing one or more members from a team.**

9. Grading Policies

9.1. Grade Expectations

Obtaining an "A" grade in Praxis requires demonstrating strong evidence of original thinking. Students who submit work that delivers no more than what is required, regardless of the depth to which those requirements are satisfied, are in essence showing only "evidence of grasp of subject matter". Accordingly they can expect a maximum grade of a "B". **Obtaining an "A" requires that students demonstrate that they have explored aspects of the material and assignment that were not explicitly required, but that are relevant to the objectives of the assignment and the course.**

Note that an "A" grade will not be awarded to a submission where the required elements are either missing or accomplished at an unsatisfactory level, regardless of whether additional work or original thought has been demonstrated.

9.2. Grade Discussions

Students are encouraged to discuss their work, both before and after it has been graded, with their Studio Instructors and Course Instructors. **In any conversation involving grades, students must be prepared to present a cogent argument supported by evidence.** Should an assignment be regraded, the new grade may be lower, the same, or higher than the initial grade.

9.3. Late Penalties

Due dates have been selected to spread course workload over the term and to provide sufficient time for meaningful feedback. Assignments that are submitted late may be subject to a penalty. Note that this practice deviates from the more common industry practice of not accepting late deliverables.

10. Other Policies

Engineering Science Students are expected to act professionally. They are also expected to be familiar with, and act according to, University policies, guidelines, and interpretations. Of particular importance are those mentioned in the "Academic Regulation" section of the Faculty of Applied Science and Engineering Academic Calendar.

10.1.Course Values concerning Equity, Diversity, and Inclusion

All students and faculty at the University of Toronto have a right to learn, work and create in a welcoming, respectful, inclusive and safe environment. In this class we are all responsible for our language, action and interactions. Discriminatory comments or actions of any kind will not be permitted. This includes but is not limited to acts of racism, sexism, Islamophobia, anti-Semitism, homophobia, transphobia, and ableism. As a class we will work together to create an inclusive learning environment and support each other's learning.

We expect each of us to take responsibility for the impact that our language, actions and interactions have on others. Engineering denounces discrimination, harassment and unwelcoming behaviour in all its forms. You have rights under the Ontario Human Rights Code. If you experience or witness any form of harassment or discrimination, including but not limited to, acts of racism, sexism, Islamophobia, anti-Semitism,

[1] This includes, but is not limited to, meeting minutes, copies of emails, text messages, chat logs, phone calls, document histories, etc.

homophobia, transphobia, ableism and ageism, please tell someone so we can intervene. Engineering takes these reports extremely seriously. You can talk to anyone you feel comfortable approaching, including your professor or TA, an academic advisor, our Assistant Dean, Diversity, Inclusion and Professionalism, the Engineering Equity Diversity & Inclusion Action Group, any staff member or a U of T Equity Office.

You are not alone. Here you can find a list of clubs and groups that support people who identify in many diverse ways. Working together, we can all achieve our full potential.

10.2. Consideration for Legal Activities in all Learning Countries

If you are a citizen of another country, and/or accessing your courses at the University of Toronto from a jurisdiction outside of Canada, please note that you may be subject to the laws of the country in which you are residing, or any country of which you have citizenship. The University of Toronto has a long-established commitment to freedom of expression, with this right enabled by an environment valuing respect, diversity, and inclusion. In your classes, you may be assigned readings, or discuss topics that are against the law in other jurisdictions. You should become familiar with any local laws that may apply to you and any potential impact on you if course content and information could be considered illegal, controversial, or politically sensitive. If you have any concerns about these issues, please contact your instructors directly to discuss with us.

10.3. Support and Accommodation

Students with diverse learning styles and needs are welcome in this course. Students who have a disability or health consideration that may require accommodations are both encouraged and welcome to approach the Course Instructors as soon as possible. **Should accommodations be necessary, by University of Toronto policy students are required to contact the Accessibility Services Office**.

The University of Toronto supports accommodations for students with diverse learning needs, which may be associated with mental health conditions, learning disabilities, autism spectrum, ADHD, mobility impairments, functional/fine motor impairments, concussion or head injury, blindness and low vision, chronic health conditions, addictions, deafness and hearing loss, communication disorders and/or temporary disabilities, such as fractures and severe sprains, or recovery from an operation.

If you have a learning need requiring an accommodation the University of Toronto recommends that students register as soon as possible with Accessibility Services at https://studentlife.utoronto.ca/service/accessibility-services-registration-and-documentation-requirements/.

Phone: 416-978-8060
Email: accessibility.services@utoronto.ca

10.4. Illness

While the Teaching Team will work with students to ensure that they are not disadvantaged should they become ill, **students have a responsibility to work in good faith with the Teaching Team to make appropriate accommodations**. Students who become ill and are unable to complete their Praxis and Design assignment(s), or whose performance is compromised, have the option of petitioning their circumstances by following the information available in the Academic Calendar or online at:

`https://undergrad.engineering.utoronto.ca/petitions/about-petitions/`

Because much of the student work in Praxis takes place within teams, students should be careful to make arrangements with their teammates in order to mitigate the effects of a potential absence. The Teaching Team will work with student teams to help them make these arrangements.

The University is temporarily suspending the need for a doctor's note or medical certificate for absences from academic participation. Students must use the Absence Declaration tool on ACORN to declare an absence and submit a Petition for Consideration in Term Work if they require consideration for missed academic work. (Information provided by the Vice-Provost Students: www.viceprovoststudents.utoronto.ca/covid-19/). students to your Academic Advisor for support using this tool. Note that repeated absence from Studio will inevitably affect a student's ability to achieve the Studio and Teamwork Engagement evaluation.

10.5. Mental Health

As a university student, you may experience a range of health and/or mental health challenges that could result in significant barriers to achieving your personal and academic goals. Please note, the University of Toronto and the Faculty of Applied Science & Engineering offer a wide range of free and confidential services that could assist you during these times.

As a U of T Engineering student, you have an Academic Advisor (undergraduate students) or a Graduate Administrator (graduate students) who can support you by advising on personal matters that impact your academics. Other resources that you may find helpful are listed on the U of T Engineering Mental Health & Wellness webpage, and a small selection are also included here:

- Accessibility Services & the On-Location Advisor
- Graduate Engineering Council of Students' Mental Wellness Commission
- Health & Wellness and the On-Location Health & Wellness Engineering Counsellor
- Inclusion & Transition Advisor
- U of T Engineering Learning Strategist and Academic Success
- My Student Support Program (MySSP)
- Registrar's Office
- SKULE Mental Wellness
- Scholarships & Financial Aid Office & Advisor

If you find yourself feeling distressed and in need of more immediate support resources, consider reaching out to the counsellors at My Student Support Program (MySSP) or visiting the Feeling Distressed webpage.

10.6. Instructional Materials and Copyright

Students are prohibited from recording or otherwise reproducing any copyrighted materials associated with this course unless they obtain prior permission from the copyright holder. Note that all lectures are copyright of the lecturers. Distributing any resources created by the lecturers without their express permission is not permitted.

10.7. Plagiarism

The University of Toronto regards plagiarism as a violation of the Code of Behaviour on Academic Matters. Plagiarism is a serious form of cheating in which a student makes use of someone else's ideas or words without giving appropriate attribution. In your academic work, plagiarism usually occurs in one of three ways:

1. You cut and paste someone else's words or code or figure but do not clearly show what the source is for that material.
   - This problem is usually a result of sloppiness. We attempt to help you avoid this problem by making very specific requirements for source use. If you are uncertain how to do that, ask.
2. You hand in work done by others (e.g. teammates) without putting their names on the work.

- This action not only an academic offence but it is disrespectful to your classmates. University policy makes clear that all parties are subject to penalties for this kind of cheating.

3. You rephrase someone else's idea into your own words, but do not give credit to the source of the idea.
   - Doing this action is not only an academic offence but it weakens your writing by failing to use the authority of the source to give the idea credibility.

The University takes cheating very seriously. Penalties can include zero on the assignment, zero in the course, annotations on your transcript (which would be seen by a potential graduate school or employer), or in extreme cases expulsion from the University. **Discuss any concerns about sources with your Studio Instructor or a Course Instructor *before* submitting a document for assessment.**

10.8. Turnitin

University of Toronto requires that all courses that may use turnitin.com for plagiarism detection include the following statement:

> "Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site."

The word "essay" here should be understood more broadly as "assignment," since constructing your written work for Praxis as traditional essays will not serve you well.

11. Notice of video recording and sharing (Download and re-use prohibited)

This course, including your participation in lecture (not studio), will be recorded on video and will be available to students in the course for viewing remotely and after each session.

Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation, and are protected by copyright. Do not download, copy, or share any course or student materials or videos without the explicit permission of the instructor(s).

For questions about recording and use of videos in which you appear please contact your instructor.