

ENGR 103: Introduction to Engineering in Practice - Design Purdue IRL Learning Community

Fall 2022 Syllabus

Version 1

(last updated 4/28/22)

Course Description

The Design Purdue IRL (In Real Life) learning community provides an exciting opportunity for students across Purdue to work collaboratively on a Design project focused on real-life, Purdue-specific, social engagement. Students will improve and develop their leadership skills as they work in cross-disciplinary teams. Students will learn to communicate ideas across disciplines (e.g., engineering, sciences, humanities, arts, social sciences, etc.). Students will develop awareness and knowledge of the diverse perspectives on Purdue's campus. Students will learn to design for innovation in the context of social engagement. The course's central design project will challenge students to develop creative ideas, consider multiple perspectives, and explore Purdue's social offerings.

Enduring Outcomes

Long after the course is over, you should retain the following skills and abilities:

EO1: Develop an engineering mindset, teamwork skills, and problem-solving skills.

EO2: Learn how to use student success resources and support systems offered to the community.

EO3: Understand and engage in the engineering design process in daily life.

EO4: Develop and effectively use communication skills.

Important-to-know Outcomes

The "building blocks" to achieve the enduring outcomes include:

IK1: Define and understand the implication of an engineering mindset.

IK2: Identify usage of engineering design in real life.

IK3: Recognize local support systems at the university for student success.

IK4: Provide and understand examples of problem statements, technical briefs, presentations, and elevator pitches.

Learning Objectives

Measurable indicators of learning:

LO1: Students will be able to recognize the Engineering Design Process in its various forms.

LO2: Students will be able to apply teamwork skills to creatively solve problems.

LO3: Students will be able to apply the Engineering Design Process to new and existing real-world problems.

LO4: Students will be able to use writing and speaking skills to explain ideas to others.

LO5: Students will be able to identify the importance of networking skills.

Instructional Team

The instructors for the course are Andrew Gray (gray197@purdue.edu) and Prof. Justin Hess (jhess@purdue.edu). Andrew will be the primary contact for the course and will lead most class sessions.

Course Format and Activities

You will attend one 50-minute session each week. Class is scheduled from 3:30 to 4:20 pm in LOCATION.

Course Calendar

A tentative class schedule along with assignments and due dates is as follows:

DATE	WEEK NUMBER	CLASS ACTIVITIES	ASSIGNMENTS	DUE DATES
August 22, 2022	1	Introductions, syllabus, initial design activity	Quiz 1 - Syllabus Assignment 1 - What do you know about the EDP? Assignment 2 - Exploring Campus	Quiz 1 -- next class Assignment 1 -- next class Assignment 2 -- September 7
August 29, 2022	2	Engineering Design Process lecture	Assignment 3 - Exploring Campus (part 2)	Assignment 3 -- September 19
September 5, 2022	3	Labor Day (no class)		
September 12, 2022	4	Engineering Design Workshop	Finish Assignment 3 A4 - Mini design project 1 (team submission)	A3 - Next class A4 - Next Class
September 19, 2022	5	Mini design project presentations	A5 - Mini design project 2 (team submission)	Next class
September 26, 2022	6	Exam - in class	none	
October 3, 2022	7	Dr. Hess guest lecture on empathy/ethics in engineering	Week 7 Reflection Quiz (Q2)	Tuesday 10/4
October 10, 2022	8	Fall Break (no class)		
October 17, 2022	9	Introduce design project, team meetings, idea formulation	P1 (team submission)	October 24th @ 3:00PM
October 24, 2022	10	Mid semester check-in, team project work time	Work on P2 (team submission)	November 5th 11:59PM (priority), November 7th @ 3:00PM

October 31, 2022	11	Guest lecture on engr. Design, team work time	Finish P2	November 5th 11:59PM (priority), November 7th @ 3:00PM
November 7, 2022	12	Elevator Pitches, P2 Debrief, Team work time	A6 - Peer review 1 Prepare for Design Review	Thursday 11/10
November 14, 2022	13	Design Review	P3 (team submission)	December 5th
November 21, 2022	14	LinkedIn/Networking Workshop ONLINE CLASS	Bonus Assignment	Next class
November 28, 2022	15	Course Summary Activity, Team work time		
December 5, 2022	16	Showcase	Design Purdue IRL showcase, A7 - Peer review 2	Thursday 12/8
December 12, 2022	17	Finals week (no class)		

	In-class lecture
	Special lecture
	Purdue holiday/no class
	Exam/Design Review/Showcase

This course schedule is tentative and will likely be modified multiple times throughout the semester. Please check the syllabus posted on Brightspace to view the most recent version.

If a due date or time is not specified, use the default assignment due dates on the syllabus, below in the [Assignments](#) section.

Course Materials

You will use Brightspace, Purdue's course management system, to access course materials for ENGR 103.

Note: All times listed in Brightspace, such as assignment due times, are West Lafayette times (US Eastern time zone).

Required Materials

No textbook is required. All required readings, modules, assignments, etc. will be posted on Brightspace. You will need a free Discord account for some class activities and assignments.

Office Hours

You may request a time to meet with the instructors by sending them an email. Andrew will be available for quick questions before class begins, and for more time after class ends.

Communication with the Teaching Team

When communicating with members of the teaching team via email, you must use your Purdue email address. Members of the teaching team will not respond to emails from non-Purdue email addresses.

You are expected to be respectful and professional when communicating with the teaching team. Please include the reason for your email in the subject line and be concise and accommodating. Andrew will try his best to respond to emails within 24 hours, and he typically responds to emails very quickly.

Before deciding to email the instructor, please:

1. Carefully read the instructions
2. Ask a classmate
3. Proofread the email

Discord Communication

There is a Discord server for members of the Design Purdue IRL Learning Community. Discord is a free group messaging app, similar to Slack. You can use a mobile app and/or a web app, or download an app on your computer. The server invite link will be posted on Brightspace.

Posting, sending, or copying assignment answers for other people to see is cheating. Do not post personal questions or grading concerns in Discord, and do not direct message the instructor on Discord. Instead, ask those types of questions via email.

When you are a member of this class and Discord server, you must have your real name as your server nickname, a class-appropriate profile photo, and a class-appropriate status message. If this is might be an issue with your personal account, you should make a new Discord account to use for this class.

Teaming

You will be assigned to multiple teams throughout the semester for team assignments, activities, and projects. If you are taking ENGR 131, these teams will not be the same as your ENGR 131 team.

Assignments

You will be assigned various homework assignments, including quizzes, projects, and standard assignments. Quizzes will sometimes be open ended reflection activities related to that week's lecture. You will be assigned a "Design Purdue ID number" (DPID) in Brightspace and may be asked to include that on your assignments next to your name. Some assignments may require a file to be submitted in a specific format type, for example, pdf. If an assignment is submitted as the wrong file type, it may not be graded.

With exceptions, noted on Brightspace and the course calendar,

- Quizzes are *usually* due on Tuesdays at 11:59 PM.
- Individual Assignments are *usually* due on Mondays at 3:00 PM.
- Team Assignments are *usually* due on Sundays at 11:59 PM.
- Project Milestones are *usually* due on Saturdays at 11:59 PM.

Some assignments have “priority deadlines”. Students who submit assignments before the priority deadline will receive feedback first, before the next scheduled class period.

Exams

There will be one, in-class exam. Teams will be assigned for the exam.

How to prepare for the Exam

To prepare for the exam, complete A3 and A4. The exam will be the same format as A4. Make sure you thoroughly understand the steps of the engineering design process and how to write a problem statement in the correct format.

Grading

Grades are assigned according to the table below.

Grade	Value
A+	$\geq 100\%$
A	90 to 99.9%
B	80 to 89.9%
C	70 to 79.9%
D	60 to 69.9%
F	Below 60% or a failing grade in “ethics”

Extra credit opportunities will be offered throughout the semester. Because of numerous opportunities for extra credit, grades will not be rounded or adjusted at the end of the semester.

There will be a separate grade for ethics. This category is Pass/Fail only. If you earn a failing grade in ethics, you will fail the class. Please see the [Academic Integrity](#) section for more information.

There will be 1 exam, $\cong 7$ assignments, and $\cong 7$ quizzes. The exam will be worth approximately 20% of your final course grade. Assignments will be worth approximately 40% of your final grade. Quizzes will be worth approximately 5% of your final grade. The final project will be worth approximately 35% of your final grade. The number of assignments and relative percentages of each category may change and will be clearly noted in Brightspace.

Assignments will be evaluated on the following 6-point scale:

Level 0	Level 1	Level 2	Level 3*	Level 4	Level 5
Totally unacceptable	Minimally acceptable	Moderately acceptable	Acceptable	Exceptionally acceptable	Above and beyond

*Level 3 indicates passing, Level 4 indicates an “A”.

Professional Expectations

We expect you to begin to learn and practice the professional habits of a practicing engineer. To encourage these professional habits, your instructor may choose to deduct points for certain behaviors as follows. *Note: Your instructor may add additional items to this list:*

- -5 percentage points for breaking/disregarding classroom policies
- -5 percentage points for inappropriate comments in Hotseat or Discord
- -5 percentage points for sleeping in class
- -5 percentage points for using a computer or cell phone for non-class purposes
- Failing grade in “ethics”
- Up to -25 percentage points for observed disruptive behavior to team dynamics/performance

Concerns About Grading

If you have concerns about how an assignment was graded, send an email to your instructor with a detailed description of the concern within **seven days** of the day the graded assignment was revealed in Brightspace. Your email **must** include your name, the assignment name, and a clear, detailed description of your concern about the grading.

What to expect from this course

You can expect this course to be fun, exciting, and engaging. You can expect to work with new classmates each week. You can expect very short “lectures” that are interactive and encourage group discussions. You can expect to be given time in class to start working with teams on group assignments. You can expect class to start and end on time.

What to expect from the instructor

You can expect Andrew to be friendly and approachable. You can expect Andrew to participate in out of class social activities, community dinners, and trips. You can expect Andrew to respond to [emails](#) very quickly and to be available to meet in [office hours](#).

How to be successful in this class

- Attend class with a positive attitude and ready to engage
- Participate in class discussions
- Read and follow directions on assignments
- Start assignments early
- Complete the extra credit assignments
- Ask for help early and often
- Take advantage of priority deadlines on assignments

How to be successful on the group design project

- Do your fair share of the work
- Submit before the priority deadline
- Ask for help early and often

Policies

Attendance Policy

Life happens. Attendance will not be recorded. If you are feeling sick, stay home and do not attend class. If you are feeling healthy, you are strongly encouraged to attend every class.

Please see your instructor if you have an exceptional situation, such as a severe or prolonged illness, medical or family emergency, sports or university commitment, or an approved grief absence from the Office of the Dean of Students.

(http://www.purdue.edu/studentregulations/regulations_procedures/classes.html)

Notify your team members if you will be tardy/absent for any reason, planned or unplanned, because class time routinely requires teamwork to complete tasks and assignments.

In the event a student is quarantined/isolated...

The instructor will work with the student to make sure he/she is able to access the material covered in class. The student is responsible for notifying the instructor of the absence as soon as possible.

Classroom Guidance Regarding Protect Purdue

All students are expected to follow the [Protect Purdue Pledge](#). If wearing a mask or face covering is required in the building that class is scheduled in, all students and instructors must correctly wear a mask or face covering at all times.

Any student who has substantial reason to believe that another person is threatening the safety of others by not complying with Protect Purdue protocols is encouraged to report the behavior to and discuss the next steps with their instructor. Students also have the option of reporting the behavior to the [Office of the Student Rights and Responsibilities](#).

Late work Policy

Late work is accepted only when you have an approved grief absence or an exceptional situation as described above. In one of these situations, arrange submission of your late work with your instructor.

Note: Because you will sometimes spend class time working with your team and many assignments are team assignments, notify your team members if you will be absent for any reason, planned or unplanned.

Academic Integrity

You are a member of the Purdue community—a community that values integrity. You are expected to be familiar with and to abide by the following university policies and procedures:

- [Statement of Integrity and Code of Conduct](#).
- [Student Honor Pledge](#)

You are also expected to fulfill Purdue's student-created honor pledge: "As a Boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together – We are Purdue."

Academic dishonesty is defined by Purdue as “cheating, plagiarism, or knowingly furnishing false information to the University.” Academic dishonesty includes but is not limited to the following:

- Looking at another student’s paper during a test
- Submitting homework obtained from another student
- Allowing someone else to do the work and then submitting it under your own name
- Helping someone else commit academic dishonesty, such as giving them homework to copy or allowing them to cheat from your test paper
- Copying word for word or lifting phrases or special terms from a source or reference without proper attribution (plagiarism)
- Allowing someone else to access your Purdue computer accounts or computer files
- Submitting an attendance assignment while not present in class
- Sharing a password for an attendance assignment
- Posting answers or solutions in a group chat or other form of communication
- Copying answers or solutions from a group chat or other form of communication

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breeches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

You will submit both individual and team assignments in ENGR 103. While team assignments are understood to be the work of a team, individual assignments you submit **must be your own work**.

If academic dishonesty occurs, consequences may include:

- A zero on the entire assignment or exam in question
- Forwarding your name to the Office of the Dean of Students
- A failing grade in “ethics”
- Earning a lowered or failing grade in the course

Nondiscrimination Policy

In this course, each voice in the classroom has something of value to contribute. Please take care to respect the different experiences, beliefs and values expressed by students and staff involved in this course. We support Purdue's commitment to diversity, and welcome individuals of all ages, backgrounds, citizenships, disability, sex, education, ethnicities, family statuses, genders, gender identities, geographical locations, languages, military experience, political views, races, religions, sexual orientations, socioeconomic statuses, and work experiences.

For additional information about diversity and nondiscrimination at Purdue, visit the following websites:

- [Purdue nondiscrimination policy statement](#)
- [Purdue Division of Diversity & Inclusion](#)

Purdue Policies

You are expected to comply with all relevant policies on the [University Policies](#) website.

Students with Disabilities

If you are eligible for academic accommodations because you have a documented disability that will affect your work in this class and/or at an exam, please schedule an appointment with your

instructor or see a member of the instructional support team in ARMS B122 as soon as possible to discuss your needs. At these meetings, bring your “Letter of Accommodation” that you obtained from the Disability Resource Center (DRC) so that your instructor and the IST can make proper accommodations for you.

Resources for Mental Health

Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765) 494-6995 and Purdue Counseling & Psychological Services during and after hours, on weekends and holidays, or through its counselors physically located in the Purdue University Student Health Center (PUSH) during business hours.

Basic Needs Security

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. There is no appointment needed and Student Support Services is available to serve students 8 a.m.-5 p.m. Monday through Friday. Considering the significant disruptions caused by the current global crisis as it related to COVID-19, students may submit requests for emergency assistance from the [Critical Needs Fund](#).

Purdue Emergency Response Procedures

Purdue University has an Integrated Emergency Management Plan (IEMP). This plan includes procedures, processes, and plans for responding to an emergency. Visit the [Emergency Preparedness website](#) for more information.

ENGR 103 Classroom Emergency Response

Emergency: For **any** emergency, call 911 (fire, medical emergency, etc.).

Fire Alarm or Evacuation: Gather all critical personal belongings and exit the building using the stairs. Do not use the elevator.

Shelter in Place: Could occur due to tornado, accidental release of toxic chemicals, shots fired on campus, etc.

- **Tornado:** Stay in the classroom. Move away from any glass and sit on the floor.
- **Other situations:** The course of action will depend upon the situation; FYE has an extensive emergency plan that will be put into action.
- **Recommendation:** Remain in the classroom and wait for further instructions.

Note: In any situation, follow instructions from emergency response personnel (police, fire department, etc.) when they are present

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor’s control. Information about any changes will be available in Brightspace.