

Syllabus for ENGR 1182 Course

Autumn Semester 2022

Fundamentals of Engineering II

Department of Engineering Education

Classroom: HI 308 (or remote via Zoom) | Student Computer Lab: HI 316

Course Objectives: ENGR 1182 is the second course in a two-course sequence designed to provide students with knowledge of engineering fundamentals: **technical communications, graphical communications, problem solving, the engineering design process, data collection and analysis, and engineering mindset**. The goal of the two-course sequence is to expand that knowledge to a point of maximum usefulness with respect to both your future academic work and your professional career. This course is divided into two segments: (1) Graphics and (2) Design Project. The course involves both individual and team-based performance.

Graphics: Each week students will attend one 80-minute graphics session, where they will be introduced to important engineering skills and given an opportunity to practice those skills. Class will include a short lecture including activities and/or demonstrations, followed by application assignments. Assignments consist of pre-class readings, videos, and tutorials and the application homework assignments.

Design Project: Each week students will attend two 55-minute hands-on project session. During the project sessions, students will perform a variety of hands-on activities to expose to engineering principles over various topics. Assignments may include gathering additional information from the Internet or library, solving problems related to the lab work, and preparing project presentations and reviews. There will normally be time at the end of project sessions for teams to work on assignments.

Exams: This is an entirely project-based course, and therefore, there are no traditional exams. The course will culminate with a comprehensive Graphics synthesis assignment and four Design Project final deliverables.

Participation: Individual and team-based evaluations will be conducted throughout the semester. The final team evaluation results will be a factor in assigning a final team grade. Electronic (Carmen) Discussion Board entries are required and factored into the course grade. Attendance and completion of daily in-class activities will be tracked via Top Hat. In-class activities are graded for both participation and correctness. Learning in Top Hat requires students to be willing to try and be okay with making mistakes along the way. To facilitate this, a student only needs to score a 70% over all in Top Hat for full credit.

Design Project	50%
Project Assignments & Quizzes*	15%
Project Reviews & Presentations	10%
Project Final Deliverables*	20%
Human Resources (Teamwork)	5%
Graphics	40%
Graphics Application Assignments*	15%
Graphics Pre-Class Assignments	15%
Graphics Synthesis*	10%
Participation	10%
Discussion Boards	4%
Syllabus Quizzes	1%
Graphics TopHat Activities	5%

Letter Grade	Numerical Grade
A	93-100
A-	90-93
B+	87-90
B	83-87
B-	80-83
C+	77-80
C	73-77
C-	70-73
D+	67-70
D	60-67
E	<60

Grading: The contribution of each course segment to the overall course grade is outlined above. The University's grade scale is posted above for your reference. Please note that the upper range of the numerical grade is the cut-off for that letter grade (e.g. 92.9% is an A- grade).

Minimum Grade Requirements (*): A minimum grade of 50% is required in all of the following course components: *Graphics Assignments, Graphics Synthesis, Project Assignments & Quizzes, and Project Final Deliverables* to receive a passing grade in this course. Furthermore, **Project Day attendance** must be above 60% to pass the course. For example, a student with less than 50% credit in Graphics Assignments would NOT pass the course, even if their score was above 50% in all other categories. Students must take each component seriously and complete the assigned work. Students can track their progress in the Carmen gradebook by sorting by Assignment Group and looking at your percentage in each category.

Note: This policy is independent of the overall course grade calculation that automatically appears in Carmen. A student's overall grade must still be 60% or above to pass.

Course Materials:

- **There is no textbook for this course.**
- **Carmen:** The Carmen website contains all course materials including preparation documents, instructor's presentations, in-class activities, and assignments. The Carmen site link is <https://carmen.osu.edu/> under ENGR 1182.
- **Student Resources Module:** This guide is available on Carmen on the **Modules** page. It includes information that will help you be successful in this course. Some key components are:
 - Information on course organization and where to find all needed course materials.
 - Software availability for your personal computer.
 - Computer labs and password policies.
 - Remote access to the FEP network and software.
- **Technical Communications Guide:** This guide is available on Carmen in the Resources Module. It includes information on the style and format, which will be required for all written lab assignments including, executive summaries, memos, reports, and presentations. The guide also includes recommendations on technical writing.

Carmen Access:

You will need to use [BuckeyePass](#) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the [BuckeyePass - Adding a Device](#) help article for step-by-step instructions.
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the [Duo Mobile application](#) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.
- If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357 (HELP) and IT support staff will work out a solution with you.

Course Technology Resources:

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the Ohio State IT Service Desk. Standard support hours are available at ocio.osu.edu/help/hours, and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** ocio.osu.edu/help
- **Phone:** 614-688-4357(HELP)
- **Email:** servicedesk@osu.edu
- **TDD:** 614-688-8743

Baseline technical skills for online courses

- Basic computer and web-browsing skills
- Navigating Carmen: for questions about specific functionality, see the [Canvas Student Guide](#).

Required Technology skills specific to this course

- [CarmenZoom virtual meetings](#)

Required equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Other: a mobile device (smartphone or tablet) or landline to use for BuckeyePass authentication
- For Virtual/Remote Classes:
 - Webcam: built-in or external webcam, fully installed and tested
 - Microphone: built-in laptop or tablet mic or external microphone

Required software

- [Microsoft Office 365](#): All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Full instructions for downloading and installation can be found at go.osu.edu/office365help.
- [SolidWorks 2022](#): Students may download and install this software for free on a personal device (Windows Only). SolidWorks can also be accessed through remote access to the classroom computer environment or by visiting the First Year Engineering Computer Lab. Download and Installation and Remote Access instructions will be provided in the Student Resources Module on Carmen.
- [Top Hat](#): Students should install the Top Hat App on their mobile device (phone or iPad). Top Hat can also be used on any computer with internet access at www.tophat.com.

Classroom Communications:

Your instructor or GTA will post course information on Carmen. Other methods of communication will include, but is not limited to, emails and Carmen Zoom.

Classroom Materials and Cleanliness

- No forms of vandalism of the classroom will be tolerated, including: intentional damaging of wrist rests, dry erase boards and supplies, computer cables, lab activities & materials, etc.
- At the end of each class clean off whiteboards and put materials away.
- Do not leave papers/assignments/trash behind in the classroom. For inadvertently left behind documents, the instruction team will try to store them in the front of the classroom for retrieval. These documents will be appropriately discarded after a week.

First Year Engineering Student Computer Lab (HI 316):

In addition to your classrooms and labs, you will have access to the First Year Engineering Student Computer Lab located in Hitchcock Hall Room 316. This lab can be used for assignments and lab reports, as it contains MATLAB, SolidWorks, Excel, and Word. You may not install any software onto or copy any software from the lab computers. **Food and drink are not permitted in the lab.** Violation of these policies will result in expulsion from the lab.

The door is unlocked during the following hours: Monday - Thursday 7:30 am – 5:30pm and is accessible using your Buck ID during other hours.

Assignment Submission Guidelines:

- **“On-Time Policy”:** Assignments must be submitted on Carmen at the beginning of class (unless otherwise noted). Anything after these deadlines will be marked as late. Assignments due at the beginning of class should not be worked on or printed during presentation or lectures.
- For an excused absence, assignment due dates should be arranged with the instructor/GTA. Allowed due dates will depend on when the need for an excused absence became known and the length and nature of the absence.
- Late assignments (without a valid excuse) should be turned in by the next meeting time (lab or class) after they were originally due. Invalid excuses for late assignments will be graded as normal, but with a 30% reduction in the possible points for that assignment (e.g. if the student gets 18/20 before the penalty, the final grade will be $(18-6) = 12/20$).
 - Assignments submitted more than one session late will be marked but no credit will be given.
- **Re-dos:**
 - There are re-dos for **Graphics assignments** in general, for which the student can resubmit the assignment if their score is less than 70% for a maximum of 70%. The redone assignment is due at the next meeting time (class or lab) after it has been returned. **Please notify the UTA that graded the assignment when you have completed a redo.**
 - **There are no re-dos for Design Project assignments.**
 - Late assignments or no submissions cannot be redone.
- Any deviation from these guidelines must be approved by the class instructor. This includes any situation not covered in these guidelines or any special circumstances.

Attendance Guidelines:

- Any attendance taken will occur anytime within the first five minutes of class.
- The instructor or GTA must approve any valid and documented absences. **Students should stay home if they do not feel well.** The instructional team must be notified as soon as the need for any absence is known. Students are expected to make arrangements with the instructor or GTA to make up the missed class or lab.
- Missing a **Design Project** class time:
 - If a student misses a design project class, they should immediately meet with their instructor to discuss options. Students are expected to act in a professional manner and notify not only the instructional team, but also their design project team regarding any absences.
 - If a student misses a design project class, the student is expected to contribute to the design project team outside of class to the point that they still contribute an equal share of the work. The design project team will be asked to vouch for the missing student. If the absent student does not contribute, they may not receive credit for the project assignment they missed.
 - Students with an excessive number of absences (two or more by Project Day 6, four or more by Project Day 11) may be removed from their team and given alternate assignments. These alternate assignments will allow the students to earn some credit, but the opportunity for full credit may not be available.
 - If a student is absent during a design project team presentation (i.e. P1, P2, committee meeting, etc...), they will receive a zero until they contact the Instructor to discuss the issue. The student’s teammates may be given the opportunity to vouch for the student in question’s participation for awarding of some credit.
- Any deviation from these guidelines must be approved by the class instructor. This includes any situation not covered in these guidelines or any special circumstances.

Online Evaluation Tools:

Carmen Discussion Boards: Discussion Boards are located on Carmen under Discussions. Students will be asked to respond to guided prompts which bear relevance to this course. Discussions are due on designated Sundays at 11:59 PM as specified on Carmen. All entries will be read and responded to by the instructional team as needed. Students' responses to the Discussion Boards will be used to guide us through the course, assess the use of technology in the course, and to measure student satisfaction of the instructional team, teaching styles, curriculum decisions, policies, and programs. Students are encouraged to be honest and respectful when posting to the discussion board. Students should be clear and precise in their comments.

Team Evaluations: There will be three team evaluations via CATME throughout the semester. These will comprise of two (2) interim team evaluations and one final team evaluation. Students will receive an e-mail from their GTA or Instructor with instructions. As part of each evaluation, students will rate teammates in several areas of teamwork skills. The results of the interim team evaluations will not count towards the final grade but should act as a tool to monitor how their group views teammates' contributions. The results of final team evaluation will count towards the final grade. If students need to change their working habits, they should do so quickly. **There is a 30% deduction for not completing the final evaluation.**

Student Permission for Program Publicity

During participation in the First-Year Engineering Program, photographs, printed material, and videotapes may be made for the purpose of informing the university community and the general public about activities in the College. Student images in the above media may be used to promote College programs and to make public announcements of student accomplishments and those of other students. If students do not wish for your image to be used, they should contact Dr. Lisa Abrams, abrams.34@osu.edu.

Health and safety requirements

All students, faculty and staff are required to comply with and stay up to date on all university safety and health guidance (<https://safeandhealthy.osu.edu>), which may include wearing a face mask in any indoor space and maintaining a safe physical distance at all times. Non-compliance will be warned first and disciplinary actions will be taken for repeated offenses. At this time, wearing masks in the classroom is optional. All students should be respectful and empathetic of the choices that other students and the instructional team make.

If the student refuses to comply with university safety and health protocol, the instructor/GTA has the right to ask the student to leave. If the student refuses, the instructor/GTA has the right to cancel class for that day or call campus police (with the complaint of a disruptive student). The instructor/GTA should reach out to the Associate Chair for assistance with this student to minimize the possibility of future disruptions and for assistance with the missed class period.

Copyright Disclaimer:

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Intellectual Property (IP) Ownership Notice:

Students will potentially not own any rights, title, or interests in inventions developed as part of this course. Per The Ohio State University Intellectual Property University Policy (rev. 4-15-2018), all rights, titles, and interests in inventions created during or as a direct result of this class are potentially the sole property of The Ohio State University."

Ohio State Academic Integrity Policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the university's *Code of Student Conduct*, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the university's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the university or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the university's *Code of Student Conduct* is never considered an excuse for academic misconduct, so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

If the instructor suspects that a student has committed academic misconduct in this course, they are obligated by university rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the university's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the university.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me. Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

Methods to Determine the Quality of Individual Work:

1. Can the student explain and/or demonstrate how to complete each step or element of a problem or exercise?
2. Did the student complete the work using his/her own words and terms?
3. Can each person complete the end product for themselves as an individual or explain the process involved?

Statement on Title IX (Sexual Harassment & Discrimination Policy):

All students and employees at Ohio State have the right to work and learn in an environment free from harassment and discrimination based on sex or gender, and the university can arrange interim measures, provide support resources, and explain investigation options, including referral to confidential resources.

If you or someone you know has been harassed or discriminated against based on your sex or gender, including sexual harassment, sexual assault, relationship violence, stalking, or sexual exploitation, you

may find information about your rights and options at titleix.osu.edu or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu. Title IX is part of the Office of Institutional Equity (OIE) at Ohio State, which responds to all bias-motivated incidents of harassment and discrimination, such as race, religion, national origin and disability. For more information on OIE, visit equity.osu.edu or email equity@osu.edu.

Diversity Statement:

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

The **Office of International Affairs** offers opportunities for domestic and international students to engage in activities and learn more about the diversity of Ohio State students.

- Global Engagement Nights: <https://oia.osu.edu/news/2854-join-the-conversation-with-global-engagement-nights.html>
- English Conversation Program: <https://oia.osu.edu/workshops-and-events/english-conversation-program.html>

Accommodations for Students with Disabilities

Requesting accommodations

The university strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability including mental health, chronic or temporary medical conditions, please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. **SLDS contact information:** slds@osu.edu; 614-292-3307; 098 Baker Hall, 113 W. 12th Avenue.

Accessibility of course technology

This course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- [CarmenCanvas accessibility](#)
- Streaming audio and video
- [CarmenZoom accessibility](#)
- Collaborative course tools

SLDS Exam Accommodations

During the week of each scheduled exam, this course will offer a separate SLDS-only exam session in a Hitchcock Hall classroom, proctored by a current instructor or GTA, open to all students registered with SLDS for exam accommodations. Should any student feel this session will not sufficiently meet their needs, the student may alternatively make arrangements to take the exam at the SLDS Testing Center.

Source: https://slds.osu.edu/what-we-do/student-accommodations/#_exam

Failure to notify SLDS of cancellations or changes of scheduled exam times subjects you to possible loss of exam accommodations through SLDS. Please refer to the "Policy for No Show, Lateness, or Illness" in the link below for detailed information.

Your Mental Health:

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you find yourself feeling isolated, anxious or overwhelmed, please know that there are resources to help. You can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling [614-292-5766](tel:6142925766). CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at [614-292-5766](tel:6142925766) and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline (Columbus: 614-221-5445 / National: 1-800-273- 8255; or text "4HOPE" to 741741; or at suicidepreventionlifeline.org.

The Ohio State Wellness app is also a great resource available at go.osu.edu/wellnessapp.

Additional Resources:

The **Student Advocacy Center** staff members are continuing to serve students during normal business hours and are accepting online appointments.

The **Student Emergency Fund** is available to students who may otherwise be at risk of dropping out of college due to an unexpected financial emergency. If you, or a student you know, are experiencing an unplanned expense, the Student Emergency Fund may be an option. Their office is accepting applications and may be able to award up to \$1,000 to eligible students. [Learn more and apply.](#)

The Together As Buckeyes emergency grants program, funded primarily by the federal Coronavirus Aid, Relief and Economic Security (CARES) Act, is available to all students — undergraduate, graduate and professional — through the Student Financial Aid office. To apply for a grant, students need to complete a one-page [Emergency Request form](#) and provide any supporting documentation. The Office of Student Financial Aid will process applications after determining eligibility based on each student's circumstances and guidance from the U.S. Department of Education.

Franklin County Department of Job and Family Services has amended its Prevention, Retention and Contingency Program to provide targeted relief for families impacted by the COVID-19 pandemic. The Franklin County COVID-19 Response PRC Program provides eligible families with \$500 in one-time cash assistance to help address emergent needs and expenses brought about by the public health emergency. Families can [apply online](#) today.

The **Student Wellness Center** offers financial coaching through the Scarlet and Gray Financial nationally recognized peer financial coaching program. Through the program, students will learn about financial goal setting, banking basics, budgeting, credit education, debt repayment education and saving and retirement education. [Learn more.](#)

Food Assistance: It's a common idea that pervades American culture: when you're in college, it's simply a rite of passage to sustain yourself on cheap, unhealthy food. We disagree. We highly recommend OSU's **Buckeye Food Alliance** Lincoln Tower 150 food pantry (<https://www.buckeyefoodalliance.org>) and the **MidOhio Foodbank** (<https://www.midohiofoodbank.org>). The **Buckeye Food Alliance** will remain open to support students in need. Starting Monday, March 23 the pantry will be open Monday/Thursday 10 a.m. – 2 p.m.; Tuesday/Wednesday 4 – 8 p.m. and Friday 11 a.m. – 3 p.m. If these times do not work, you can schedule a special appointment by contacting Nick Fowler at fowler.318@osu.edu.

Revision 2022-08-17 WFC