



Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: <https://catalog.uvu.edu/>

Semester: Spring

Year: 2025

Course Prefix: ENGR

Course and Section #: 1000-008

Course Title: Introduction to Engineering

Credits: 3

Course Description

Introduces engineering-problem-solving techniques, design processes, modelling of simple engineering systems using CAD, and systems analysis in Excel. Emphasizes engineering design procedures by incorporating group projects and presentations.

This course is a Writing Enrichment Course (WE). Your reports must be individually written and will be returned with feedback from the instructor to help you improve your writing.

Required course as part of the following degrees:

- Civil Engineering BS Program
 - Mechanical Engineering BS Program
 - Associates in Pre-Engineering
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Course Attributes

This course has the following attributes:

- General Education Requirements
- Global/Intercultural Graduation Requirements
- Writing Enriched Graduation Requirements
- Discipline Core Requirements in Program
- Elective Core Requirements in Program
- Open Elective

Other: [Click here to enter text.](#)

Instructor Information

Instructor Name: Professor Joshua Fernquist

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

- Apply the engineering design process.
- Employ principles of effective teamwork.
- Communicate effectively through written reports and oral presentations.
- Use Computer Aided Design (CAD) software to create basic engineering models and/or drawings.
- Apply modern software tools for engineering analysis and programming.
- Fabricate prototypes safely using power and hand tools.

For accreditation of the BS programs (need for professional licensure), the students are assessed by the following [Engineering ABET Links to an external site](#). student outcomes:

- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- An ability to communicate effectively with a range of audiences.
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Course Materials and Texts

Required materials, fees

- No textbook
- Course Lab fee of \$11 for computers, machine shop, and software usage, automatically applied through your tuition bill
- Lab access fee of \$45 for computer lab and machine shop availability, automatically applied through your tuition bill

Required technology for this course

- Canvas
- Microsoft Office (Word, Excel, Powerpoint, Teams)
- [Citrix Receiver | Utah Valley University \(uvu.edu\)Links to an external site.](#) or [Remote desktop](#)
- SolidWorks (CAD software)
- Adobe Acrobat
- CATME (team setup and peer evaluation website)

Be aware that this course may cost additional funds for any prototyping supplies, testing supplies, or video editing software associated with your group's design project.

Course Requirements

Course Assignments, Assessments, and Grading Policy

The following grading standards will be used in this class:

Grading Scale

Grade	Percent
A	94-100
A-	90-93

B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
E	0-59

Assignment Categories

Assignment Categories

Activity	Percent
Attendance (allowed to be absent for up to 2 lectures)	10%
Individual Skills Assignments (most required, some indicated as optional are extra points added to this score)	20%
Individual Written Reports (3 submissions)	30%
Writing Center Visits (2 required) and Writing Skills	10%
Group Submissions	20%
Group Presentations	5%
Professionalism	5%
Extra Credit Opportunities	0 to 3%

Late Work Statement:

Any and all assignments (including reports) submitted after the due date **are automatically reduced by 10% each business day late, up to 50% maximum reduction in the score**, unless otherwise noted in the assignment details. Similar to a real job, if you do not submit a report on time, you are likely penalized in pay or fired. Please submit assignments on time or early. If you have an excused tardiness on attendance or an assignment deliverable, please contact the instructor (ideally in advance). You may be asked to provide proof or necessary evidence ([dean of student's](#)[Links to an external site.](#) note, [office of accessibility services](#) ([Links to an external site.](#))note, etc.). The last day to submit any individual assignment is the last day of classes, Tuesday, April 22, 2025.

Required or Recommended Reading Assignments

All required readings are Canvas assignments from non-textbook sources.

General Description of the Subject Matter of Each Lecture or Discussion

The purpose of this course at UVU is to give you the experience of what an engineer does in a real job. This class has several individual assignments and relies heavily on group work (like you would have at a company).

The biggest challenges in this class are 1) allowing each member to contribute and 2) learning and improving your own personal writing skills (both are huge selling points to engineering companies!). To succeed in this class, you need to try/do all of the assignments and attend/participate in class/group sessions/meetings. Most of the grading is based on effort (that you tried it). Reports are to be done individually and you are encouraged/required to ask for assistance in writing them, especially with our UVU Writing Center.

You will be doing a semester-long group project. In the event that things go awry with your group - please consult your "team contract" first, and/or your instructor for assistance in what to do to improve group communication.

Required Course Syllabus Statements

Generative AI

This course requires you to complete assignments that assess your understanding and application of the material. You are expected to do your own work, and the use of artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, is strictly prohibited for any part of your assignments. Using these tools will be considered academic dishonesty and will be handled according to the university's policy. If you have questions about acceptable use of AI tools, please consult the instructor before submitting your work.

Using Remote Testing Software

This course does not use remote testing software.

This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the

student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU [Accessibility Services](#) at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their [rights and responsibilities](#). In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in [UVU Policy 541: Student Code of Conduct](#).

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a [specially dedicated space](#) for meditation, prayer, reflection, or other forms of religious expression.