Syllabus

ENGR 1000 – Introduction to Engineering

\_\_\_\_\_\_\_ 202x

Section 00x

# Contact Information:

**Instructor**: Dr. Brett Stone  Brett.stone@uvu.edu

**Office Hours**: CS 425c

Day(s): Time xM

You may also request a time to meet in-person or online. Just shoot me an email.

**Technical Support:** 801-863-8888 during business hours or servicedesk@uvu.edu

Business days Monday through Friday; Business Hours 8am to 5pm

# Course Meeting Times:

* Day and Day time xM – time xM
* room
* Mid-semester we will have some required meetings in GT 338.
	+ Meeting dates and locations will be announced on Canvas.
* In-person time will include lectures and peer/group work and completing assignments with instructor assistance.

# 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.

**Prerequisite:** MATH 1060 – Trigonometry

**Required Materials:** No textbook required.  Software required is CANVAS, Microsoft Office (Word, Excel, Powerpoint, Teams), Citrix ([https://virtuallabex.uvu.edu (Links to an external site.)](https://virtuallabex.uvu.edu/)) or Remote login ([https://www.uvu.edu/cet/support/labs/lab\_remote\_access.html (Links to an external site.)](https://www.uvu.edu/cet/support/labs/lab_remote_access.html)), Adobe Acrobat, and a video editing program (Kaltura, iMovie, etc), and Solidworks.  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.

# Learning Objectives:

By the end of this course students will:

* 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.

# Engineering ABET Accreditation Student Outcomes:

This course is used to help improve our engineering programs by evaluating against our internal goals.  The student outcomes that we assess from this course are as follows:

* 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

# Grading Policy:

Grades will be assigned based on the following scale:

A         > 94%

A-        < 94% to 90%

B+        < 90% to 87%

B          < 87% to 84%

B-        < 84% to 80%

C+        < 80% to 77%

C           < 77% to 74%

C-          < 74% to 70%

D+         < 70% to 67%

D           < 67% to 64%

D-          < 64% to 60%

E           < 60%

Your course grade will be determined according to the following percentage distribution:

Attendance:            10%

Individual Assignments:                        20%

Individual Reports (4):                           30%

Writing Center Visits (4):                      10%

Group Submissions:                              20%

Group Presentation:                               5%

Professionalism / Peer Evaluation:           5%

                                                Total    100%

Extra Credit Opportunities:                    considered upon request

Since most of the content is subjective in the assignments or reports, a large portion of this course is graded on whether assignments and documents were attempted and submitted containing all required items. You may receive partial or full credit for correctly attempting some or all of the required items as defined in each assignment description.

# Assignment Late Policy:

Any and all assignments (and reports) submitted after the due date are automatically reduced by 3% each day they are late, down to a maximum possible score of 60%.  Please submit assignments on time or early.  If you want feedback on the format or whether the content requested was covered – feel free to contact the instructor via email or in office hours before the due date.  The last day to submit any individual assignment is the last day of lecture, Thursday, December 8th, 2022.

# Assessments:

Attendance to Mandatory Events

Attendance will be taken in-person. We like to provide a bit of hands-on experience with this class, particularly to see and use our lab equipment.  You must complete the laboratory safety quiz before arriving.  If you have an excusable last-minute absence, please notify the instructor as soon as you are able to (before or after the event).  You may be asked to demonstrate that the absence is excusable (e.g., doctor’s note or a dean’s note).  This portion of your grade is based on you attending your scheduled event on-time.  If the scheduled event is cancelled, such as due to inclement weather or government restrictions, you will be notified via CANVAS Inbox by the instructor.

Individual Assignments and Individual Reports

There will be individual homework assignments throughout the semester which will give you the chance to further explore the skills/software/tools we talk about in class.  These are meant to be submitted individually.  These smaller assignments account for 20% of your grade and the larger reports are 30% of your grade, so missing any of these has a big impact on your course grade.

Please submit all digital homework assignments in the format requested (many may require the original software file format .xlsx, .pptx, .docx, etc). Your first assignment is meant to help you become familiar with CANVAS and UVU Campus.

Writing Center Visits

With writing individual reports as the biggest contribution of the assessment in this course, we require all students meet online or in-person with the writing center at least 4 times in the semester.  Ideally these should be a week in advance of each report submission.  Writing center visit deadlines correspond with specific individual report deadlines.  Students may attend additional one-on-one visits beyond the required visits. The Writing Center is in the Fulton Library in room FL 208, but you may do online meetings as well.

Please submit the copy the visit receipt from any face-to-face or online meeting on CANVAS under each Writing Center Visit assignment to receive credit for these visits.

Group Submissions and Presentation

To help you work through the design process, you will be asked to submit some group items, which are intended to keep you on task and to provide feedback from the instructor.  Please take any feedback seriously and share/discuss the feedback with your group.

You only need to submit ONE of these per group.  Be sure they have the group member names on it (or if submitting digitally that it is tied to at least one group member). These can be hand-written or typed or drawn.  If you want to use something like GoogleDrive to share ideas digitally, please either copy then share the file via CANVAS, or double check (in advance) that a shared link is visible to the instructor.  There are cases when an individual from a group may post on CANVAS and the rest of the group cannot see the document – be aware that the instructor should be able to view the post and it may take a little time to cross-reference in the system which students are in that group.

Grading for group assignments may be the same grade for all individual members or may be different grades for each individual.

Professionalism

This portion of the grading is subjective based on your behavior as a professional.  Being a professional means you are respectful to others (instructor, visitors and classmates) in the lecture sessions, during activities, during group discussions, and outside of class during office hours or other interactions.  Professional also includes following rules and policies.  Any violence or harassment (including those related to race, national origin, color, religion, age, status as a person with a disability, veteran’s status or genetic information) that is witnessed or brought to the attention of the instructor will be formally reported to the Office for Equal Opportunity and Affirmative Action [https://www.uvu.edu/equalopportunity/ (Links to an external site.)](https://www.uvu.edu/equalopportunity/). One common mishap that can occur in this category involves copying others’ work, also known as plagiarism.  Be sure to only submit your own work for individual assignments.  If you work in groups on an assignment, do so only as a discussion but type up or draw up your own version of the required documents.  Any potential academic misconduct will be formally reported as according to University’s policy for Academic Honesty [https://www.uvu.edu/studentconduct/students/integrity.html (Links to an external site.)](https://www.uvu.edu/studentconduct/students/integrity.html).

# Group Participation Policies:

The design project serves two objectives: learning the design process and learning to work in teams.  For the design process, you will learn the iterative process of defining a problem, brainstorming a solution, evaluating the solution, refining/redefining the problem, and communicating in different ways (written, drawings, verbal).  The communication portion is also a key step for learning to work in a team.  Professionally, you will find every engineering job requires communication as well as share ideas and responsibilities with others in a team.  Some of the skills to participate in a team also involves dealing with conflict and evaluating your peer’s performance.

You are asked to treat all members of your group or team equally.  That means you yourself should be responsible for actively participating and communicating issues/ concerns/ compromises.  Be aware also that you all have different backgrounds and skill sets, sometimes it is difficult to work among a specific group.  For this class, you will have three opportunities to evaluate your teammates.  In special cases including university changes (related to covid-19) and due to some students adding/dropping, it is possible and acceptable to change group members during the semester.  One thing to keep in mind is your teams are meant to help you go through the steps of the design process, but the actual documentation and grading is more heavily weighed on the individual submissions.  If you see a need to change your group membership, first, please try to work with your existing group members.  You can also at any time contact your instructor.

# Inclusion and Diversity:

“Come as you are. UVU has a place for you.”--President Tuminez.

Your experience in this class is important to me and I want you to feel included, respected and that your voice is heard.  As your instructor, it is my intent to create an inclusive and equitable learning atmosphere that is representative of a diversity of perspectives, and where all students are encouraged to share, express, and contribute in a safe environment.  Please feel free to contact me if you would like to talk about any suggestions and/or concerns. If that feels uncomfortable to you, you can also contact the Inclusion and Diversity Committee [https://www.uvu.edu/inclusion/about/index.html (Links to an external site.)](https://www.uvu.edu/inclusion/about/index.html) to ask for help and support.

# Students with Request for Accommodations:

Students who need accommodations because of a disability may contact the UVU Office of Accessibility Services (OAS) [https://www.uvu.edu/accessibility-services/ (Links to an external site.)](https://www.uvu.edu/accessibility-services/), located on the Orem Campus in LC 312. To schedule an appointment or to speak with a counselor, call the OAS office at 801-863-8747. Deaf/Hard of Hearing individuals, email accessibilityservices@uvu.edu or text 385-208-2677.

# Course Fees:

The class fee of $11 that you paid is used for supplies and equipment that we use during this course. In addition, there is a $35.00 computer lab access fee (used to pay for the software on Citrix). This fee is used to pay for a portion of the College of Engineering and Technology file servers, networking infrastructure, lab computers, overhead projectors, support hardware, presentation software, lab computer software, file server software, associated software, diagnostic/repair tools, and general hardware and software.   Since every group design requires a wide range of solutions and testing possibilities, the course fee (and course resources) are not expected to cover the cost of any prototyping, testing, or printing you will be required to do for this course.  Please consider sharing the cost of prototyping, testing, and video editing among your group members.

**AI Policy**

Artificial intelligence tools such as Chat GPT or similar should be used to help improve student intelligence – not replace it. Thus, students may use such tools to help with tasks such as report writing only in minor, incidental tasks such as helping to improve the wording of a (single) sentence or as a thesaurus to find a better word to describe something. Any suspected use of AI tools for anything more than incidental use will be investigated and, if shown to be used inappropriately, will result in a failing grade on the assignment. In layman’s terms, please don’t use Chat GPT to write a report for you.

AI can be very useful for other aspects of the design process and its appropriate use is encouraged. For example, when selecting a material for a specific function, AI can be a great starting point. It can also help generate ideas during brainstorming sessions. Students should exercise caution against over-reliance on AI tools and validate suggestions made by AI with reliable sources.