

The University of Texas at Austin

**UGS 303 How Things Work
Spring 2018**

(Unique #'s: 62365, 62370, 62375, 62380, 62385, 62390)

Classroom: WRW 102
Time: Tu Th 9:30-11:00am

Instructor: **Dr. Maura Borrego**
Office: ETC 4.158
Email: maura.borrego@austin.utexas.edu
Office Hours: before or after class, or by appointment

Teaching Assistant: Sadhan Sathyaseelan
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Teaching Assistant: Domingo Martinez
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Office Hours: as needed in lab spaces as project deadlines approach

Discussion sessions:

Unique #62365:	8:00-9:00am	EER 1.528
Unique #62370:	9:00-10:00am	EER 1.528
Unique #62375:	10:00-11:00am	EER 1.528
Unique #62380:	11:00-12:00pm	EER 1.528
Unique #62385:	12:00-1:00pm	EER 1.528
Unique #62390:	1:00-2:00pm	EER 1.528

OBJECTIVES:

Designed to introduce undergraduates to scholarly analysis from an interdisciplinary perspective. Includes an introduction to University resources, such as research facilities, libraries, and attendance at University lectures as assigned. The goal of this course is for students to better understand how engineering systems work; what purpose, benefits and drawbacks those systems have; and how engineering systems fit into society's broader context.

COURSE (CATALOG) DESCRIPTION:

An introduction to mechanical engineering principles and concepts. This course will cover three main sections: how things are made (design & manufacturing), how things are powered (energy), and how things move (transportation).

PREREQUISITES: Restricted to first-year students.

TEXTBOOK: There is no textbook for this section of this course.

GRADING:

Group Project	
Customer Research & Concept Generation	20%
Design & Prototyping	20%
Final Product & Commercial	15%
Peer Evaluation of Teamwork	5%
Lecture in-class activities	15%
Individual Writing (event summaries)	10%
Quizzes	10%
Participation in lecture and discussion sections	5%
Total	100%

Final grade will be assigned based on the following scale.

93-100%	A
90-92%	A-
87-89%	B+
83-86%	B
80-82%	B-
77-79%	C+
73-76%	C
70-72%	C-
67-69%	D+
63-66%	D
60-62%	D-
0-59%	F

Grades will be posted on the Canvas site when available.

<https://utexas.instructure.com/courses>

GROUP PROJECT: In groups of 4 students, you will redesign an everyday object. While the overall project is worth 60% of your overall course grade, smaller assignments related to the project will be due each week. This includes interviewing potential users of the object, submitting preliminary and revised designs, constructing and revising a prototype of the object, and recording a commercial to advertise your project. Lab facilities for completing the project are located in the EER and ETC buildings; all students enrolled in this course will have access regardless of their majors. This project spans the entire semester.

LECTURE IN-CLASS ACTIVITIES: Other activities will be completed primarily during lecture class time. These will be completed in groups of approximately 2 students and usually require a device such as computer, tablet, or phone that can access web sites. To receive full credit for these assignments, you must attend class, make arrangements prior to a planned absence, or present a doctor's note.

INDIVIDUAL WRITING: You will be responsible for two individual writing assignments comprised of summaries of events (i.e., lectures) that you attend. Some approved events will be posted on Canvas, but you can also email Dr. Borrego (maura.borrego@austin.utexas.edu subject: UGS 303 event approval) to request approval of a specific lecture event. Typically, these can include meetings of student organizations which feature a guest speaker who is a UT professor or someone visiting from a different organization than UT Austin. The event summaries need to be 200-300 words with proper grammar (but informal in style, so no citations necessary). Submit them on Canvas.

QUIZZES: Two quizzes will be administered. The dates will be announced in advance. Questions will be primarily based on guest lectures. To prepare for these quizzes, you should attend class and pay attention during the guest lectures, but you should not have to take notes or study.

PARTICIPATION IN LECTURES AND DISCUSSION SECTIONS: This grade will be determined by attendance at lectures and active participation during discussion sections. Attendance will be taken throughout the semester during lectures, and during every single discussion section. Discussion sections will be held every week except for the week of spring break.

ATTENDANCE POLICY:

Attendance in lecture and discussion sections is important to your learning in this class. As a result, **if you miss more than five lecture meetings or three discussion meetings** due to unexcused absences, **you risk being dropped** from the course by the instructor.

LATE ASSIGNMENT POLICY:

The policy for handing in assignments after the deadline is as follows:

- 1) Assignments must be turned in "On Time" to receive full credit. ("On time" is defined as the start of class on the day it is due, or if submitted on Canvas, before the deadline listed on Canvas.)
- 2) Late assignments will be accepted up to one week late for 50% credit.
- 3) Only one late assignment will be accepted per student for the semester. Major projects are divided into multiple components; only one of these components may count as a late assignment.

COMPUTER USAGE:

Most assignments will require the use of a computer. This includes the use of spreadsheets, plotting programs, statistics programs, browsers, and document production programs. Most assignments will be completed electronically and submitted on Canvas. Some activities scheduled during lecture can be completed using a phone or tablet to access the internet, and a written worksheet to record your answers. Check the course calendar for dates when an activity is scheduled to make sure you are prepared.

PLAGIARISM AND ACADEMIC DISHONESTY:

Plagiarism on all assignments is strictly prohibited. For this course, plagiarism is defined as presenting the ideas or writing of others without proper acknowledgement. Proper acknowledgement would be direct quotation or paraphrasing with citation. Proper citation should be provided when referencing others' work. Citations should be embedded in the writing in addition to full citations at the end of the paper. For more information about proper citation of sources, students should consult the following:

- [Undergraduate Writing Center](#), for information and advice on all aspects of writing
- [University Libraries](#), for information and advice on library resources

Students who violate University rules on academic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students, and the integrity of the University, policies on academic dishonesty will be strictly enforced. For additional information, see the University General Information Catalog, <http://catalog.utexas.edu/general-information/> and the Dean of students website at: <http://deanofstudents.utexas.edu/conduct/>.

COURSE WEB PAGE:

Course materials will be posted on Canvas:

<https://utexas.instructure.com/courses>

This includes course syllabus, announcements, assignments, and grades.

COURSE INSTRUCTOR EVALUATIONS:

At the end of the course, you will have the opportunity to submit official feedback on the instructor and the course via the university's required Course Instructor Survey. We will complete these on during lecture on a date indicated on the course calendar.

MISCELLANEOUS:

- The deadline for dropping a course without possible penalty can be found in the current semester UT calendar, which can be accessed online at: <http://www.utexas.edu/student/registrar/cals.html>
- The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259 (voice) or 410-6644 (video phone) or <http://diversity.utexas.edu/disability/>.
- Allegations of Scholastic Dishonesty will be dealt with according to the procedures outlined in Appendix C, Chapter 11 of the General Information Bulletin, <http://www.utexas.edu/student/registrar/catalogs/>
- Collaboration on assignments with other students is encouraged. However, ***all the work submitted must be your own***. Any evidence of plagiarism or other forms of scholastic dishonesty will be grounds for a failing grade in the course.
- A student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform the instructor as far in advance of the absence as possible, so that arrangements can be made to complete an assignment within a reasonable time after the absence. Students and instructors who have questions or concerns about academic accommodations for religious observance or religious beliefs may contact the Office of Inclusion and Equity (<http://equity.utexas.edu>).
- Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside. Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building. Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class. In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Dept., The University of Texas at Austin Police Dept., or Fire Prevention Services office. Link to information regarding emergency evacuation routes and emergency procedures can be found at: <http://emergency.utexas.edu/preparedness>
- The Behavior Concerns Advice Line (BCAL) contact information is [512 – 232-5050](http://operations.utexas.edu/units/csas/bcal.php) <http://operations.utexas.edu/units/csas/bcal.php>