

**UNIV 1301 Foundations of Engineering
Course Syllabus, Fall 2020**

UNIV 1301 Seminar/Critical Inquiry - Foundations of Engineering

CRN: 18885 Classroom: ***Cotton 207 & Synchronous Online (Blackboard, Google Classroom & Remo)***

Time: **3:00 – 4:20 PM** Days: ***Tuesday and Thursday (T & R)***

Instructor: Hector Lugo, MSEE

Office Phone #: 747-7247

e-mail: helugo@utep.edu

Office: UGLC 226 & 202

Office Hours: Wednesday 3:00 PM - 5:00 PM. If you cannot meet with me during office hours, please see me after class to set up an appointment at some other convenient time, call me, or e-mail me for an appointment.

Peer Leader: Andres Mena

E-mail: aamena3@miners.utep.edu

Office: **TBD**

Office Hours: **TBD**

Librarian: Debjani Mukhopadhyay

E-mail: dmukhopadhyay@utep.edu

Office: **TBD**

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Academic Advisor: Linda Vera

E-mail: lsvera@utep.edu

Office: **TBD**

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Course Description

“Foundations of Engineering” is the **Gateway** to your engineering education at the University of Texas at El Paso and to the exciting profession of engineering. You will have the opportunity to make meaningful connections to the magic of engineering and to contribute to the UTEP legacy of leadership in developing outstanding students and career professionals. The Foundations **you** build will enable you to be a successful student and a successful engineer! The foundations are tools for developing:

- Academic skills and personal growth skills
- Engineering skills in critical thinking and problem solving
- Mathematical tools and applications for engineering
- Connections with the engineering profession and opportunities to appreciate the world of engineering

At the end of the semester you will:

- Begin to understand your role, opportunities and responsibilities that impact your success within the context of the university.
- Have learned about and practiced essential academic skills in order to strengthen performance in the university setting.
- Begin to build a strong network of faculty, staff, and peers in order to create a supportive and positive learning experience/environment.
- Begin to assess and better understand your own interests, abilities and values in order to more efficiently pursue your academic, career, and life goals.
- Have become involved in UTEP activities and campus resources.

Technology Requirements

Course content is delivered via the Internet through online platform management system such as (Blackboard, Google classroom, Zoom and/or Remo). Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. Mozilla Firefox, Google Chrome and Safari are the most supported browsers for Blackboard; other browsers may cause complications with the (Learning Management System) LMS. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need to have or have access to a computer/laptop, scanner, a webcam, and a microphone. You will need to download or update the following software: Microsoft Office, Adobe, Flashplayer, Windows Media Player, QuickTime, and Java. Check that your computer hardware and software are up-to-date and able to access all parts of the course.

If you encounter technical difficulties beyond your scope of troubleshooting, please contact the Help Desk <https://www.utep.edu/technologysupport> as they are trained specifically in assisting with technological needs of students.

Netiquette

- Always consider audience. Remember that members of the class and the instructor will be reading any postings.
- Respect and courtesy must be provided to classmates and to instructor at all times. No harassment or inappropriate postings will be tolerated.
- When reacting to someone else's message, address the ideas, not the person. Post only what anyone would comfortably state in a Face to Face situation.
- Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on in these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space. If students wish to do so, they have the ethical obligation to first request the permission of the writer(s).

Required Course Text and Materials

1. *Studying Engineering: A Road Map to a Rewarding Career, 5th Edition, by Raymond B. Landis (2018). Los Angeles: Discovery Press.*
2. A 3-ring binder with dividers for readings/handouts, class notes, and assignments
3. A scientific calculator (see below for details)
4. Engineering Paper. Check for this at the university bookstore, office supply store, or at the student chapter of ASCE office, E219.

Learning Environment

Team learning will be used in the classroom and online whenever it is appropriate. In order for team learning to be successful, each student must come to class prepared to participate. This means that you must complete reading assignments, library or Internet research, writing assignments, surveys, self-assessments, homework, and other assignments BEFORE you arrive for class.

Calculator: You will need a simple scientific calculator for this class. Only models of calculators approved for the FE Exam are permitted for use in this class. These include any FX-115 Casio models, all HP 33s and HP 35s models (Hewlett Packard) and all TI-30X or TI-36 models (Texas Instruments).

Homework:

Homework is due at the beginning of the class period. Homework is to be turned in before class begins. It should be stapled and flat (do not fold). Late homework will only be accepted (approved) in the case of illness or an emergency; you are responsible for notifying your peer leader or me as soon as possible (before class) of the situation (illness or emergency) necessitating late submission of homework. Most written assignments will be completed using a word processing program (you will be notified when this is required for the assignment). Assignments are to be done in pencil unless stated otherwise.

Attendance:

Attendance is mandatory, whether it is in person or online. It is the key to your academic success. You will be working in teams of 3 students, which will be assigned the first day of class. This is a hybrid course, as such, your team will be required to attend class in-person at certain designated times. The syllabus schedule below lists when your team is scheduled to attend class in person. This is designed so that you can get to know and better interact with your teammates and instructor, as well as complete hands-on activities and your team project when necessary.

If you have two (2) unexcused absences from class, either in-person or online, I will give you a warning and ask you to meet with me to discuss the reason for your absences and your progress in the class. Three (3) unexcused absences, whether in person or online, will result in you being dropped from the course with a W up until the drop course deadline. After this date, the grade you receive will be an **F**.

Absences for University-recognized activities (such as athletics, band/orchestra, cheerleading, conferences or field trips), religious holy days, or military leave, will be excused only if I am notified before the absence occurs. You are responsible for obtaining notes, handouts, and assignments and for meeting the same deadlines as the rest of the class. There is no make-up for class work that you miss due to an absence unless it was caused by carrying out University business, observing a religious holy day, military leave, or was a professionally documented medical or legal emergency.

Class Recordings:

Class lectures will be recorded in case of absence and for review of material covered during class. The lecture will be uploaded to the designated Weekly Module in Blackboard or Google Classroom.

One-on-one Meetings:

You are required to schedule at least one individual meeting with (1) the instructor and at least one individual meeting with (2) the peer leader during the semester to discuss your progress in the class, and answer any questions you may have in regards to course content, student resources at UTEP or any other school or career-related topics.

Classroom Etiquette:

Part of being a professional is being on time and being prepared to do your job. This applies to your career as a student as much as it does to your future career as an engineer. Coming to class late is unprofessional and is very disruptive to the class. You are expected to be in the class and prepared to participate at the scheduled start time. If you are late to class, you are to come in quietly and take your seat. **DO NOT** attempt to turn in assignments; pick up handouts when class is over.

Wireless devices are allowed in the classroom. However, please use professional discretion by shutting them off, or setting them to mute or silent mode before coming to class. Do not answer incoming calls

or make outgoing calls except in an emergency. Do not use text messaging or web browser features while in class, unless you are instructed to do so. If you must answer the phone, leave the class discretely. You may return to the class once your call is finished.

The Center for Accommodations and Support Services (CASS):

Students with special needs that are registered with CASS are to contact me immediately so that we can work out accommodations for your needs. CASS may be contacted at 747-5148, cass@utep.edu or go to Room 106 Union East Building.

Grading: There will be no curving of grades in this course. The grading scale is:

90 – 100	A	80 – 89	B	70 – 79	C	60 – 69	D	< 60	F
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Your grade will be determined by:

Homework & End-of-Course feedback survey	10%
Teamwork/In-class Assignments	10%
Quizzes	5%
Project 1	10%
Project 2	10%
Project 3	10%
Exam I	10%
Exam II	10%
Final Exam	15%
Essays / Reflection	10%

Homework & End-Semester Questionnaire:

In addition to weekly homework assignments, an end-of-semester assessment (on-line) will be assigned for completion during the last two weeks of the semester.

Quizzes:

There will be a quiz at the beginning of every class to provide you regular and immediate feedback on how you are doing in the class.

Teamwork/In-Class Work:

There will be several group or team activities throughout the semester for which all individual team members will be graded based upon team cooperation and participation.

Exams:

There will be two (2), 1-hour exams and one final exam.

Final Exam Policy:

Exemption from final examination may not be given. Final examinations are scheduled to be two hours, forty-five minutes in length and take place during the final examination period. It is the policy of the university not to administer a second final examination in the course. It is also university policy that students shall not have more than two final examinations in a single day. In the unlikely event that the examination schedule results in a student having three final examinations on a single day, the faculty member upon the request of the student shall reschedule the second of that student’s three examinations.

Scholastic Integrity/Academic Honesty:

In accordance with University regulations, scholastic dishonesty on a given assignment will be referred to the Dean of Students and may result in a zero on the assignment, an "F" in the course, or even suspension from the university. If you need assistance with your assignments, please consult authorized sources of help. "Plagiarism" is the unattributed use of someone else's work -- a classmate's, a website's, even a teacher's from another course. For more information on Scholastic Dishonesty and/or Plagiarism, consult the [Handbook of Operating Procedures: Student Affairs](#), which is available in the Office of Student Life.

Student Conduct:

All students are expected and required to obey federal, state, and local laws, to comply with the Regents' Rules and Regulations, with The University of Texas System and University rules and regulations, with directives issued by an administrative official of the U.T. System or The University of Texas at El Paso in the course of his or her authorized duties, and to observe standards of conduct appropriate for an academic institution.

Neglect and Lack of Effort:

UTEP defines "neglect" as not paying attention or caring and defines "lack of effort" as not meeting course requirements. In an online course "neglect" is not logging into the course consistently each week; "lack of effort" is not completing 70% of the coursework at the end of any week. Both neglect and lack of effort are considered non-exempt drops and count towards the six-course drop limit.

COVID-19 Precautions:

You must STAY AT HOME and REPORT if you (1) have been diagnosed with COVID- 19, (2) are experiencing COVID-19 symptoms, or (3) have had recent contact with a person who has received a positive coronavirus test. Reports should be made at screening.utep.edu. If you know anyone who should report any of these three criteria, encourage them to report. If the individual cannot report, you can report on their behalf by sending an email to COVIDaction@utep.edu.

For each day that you attend campus—for any reason—you must complete the questions on the UTEP screening website (screening.utep.edu) prior to arriving on campus. The website will verify if you are permitted to come to campus. Under no circumstances should anyone come to class when feeling ill or exhibiting any of the known COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, and alternative instruction will be provided. Students are advised to minimize the number of encounters with others to avoid infection.

Wear face coverings when in common areas of campus or when others are pre-sent. You must wear a face covering over your nose and mouth at all times in this class. If you choose not to wear a face covering, you may not enter the classroom. If you remove your face covering, you will be asked to put it on or leave the classroom. Students who refuse to wear a face covering and follow preventive COVID-19 guidelines will be dismissed from the class and will be subject to disciplinary action according to Section 1.2.3 Health and Safety and Section 1.2.2.5 Disruptions in the UTEP Handbook of Operating Procedures.

Please note that if COVID-19 conditions deteriorate in the City of El Paso, all course and lab activities may be transitioned to remote delivery.

COVID-19 Accommodations:

Students are not permitted on campus when they have a positive COVID-19 test, exposure or symptoms. If you are not permitted on campus, you should contact me as soon as possible so we can arrange necessary and appropriate accommodations.

Students who are considered high risk according to CDC guidelines and/or those who live with individuals who are considered high risk may contact [Center for Accommodations and Support Services](#) (CASS) to discuss temporary accommodations for on-campus courses and activities.

UTEP does not want students returning to campus after the Thanksgiving break. Your last two classes, 12/1 and 12/3, and your final exam on 12/10 will be strictly online for everyone.

Tips for Success in this Class:

1. Come to class on time and take notes.
2. Read and study textbook, handouts, and complete reading assignments before class.
3. Visit me and /or your peer leader during office hours if you need assistance, or e-mail me anytime.
4. Finish your assignments early. Ask someone to proofread your work so that you can incorporate any suggestions that they provide for improving your work.
5. Don't cram for examinations; start your success by not falling behind!
6. Take advantage of the peer leader, academic advisor and librarian, office hours, UTEP resources, College of Engineering resources.

Important Fall 2020 Dates:

Late Registration Period (Fees)	Aug 24th - 28th
Labor Day – University Closed	September 7
Fall Census Day	September 9 (last day to register for classes)
Mid-term grades	October 22nd (e-mailed to freshmen via UTEP e-mail)
Fall Drop/Withdrawal Deadline	October 30
Thanksgiving Holiday – no classes	November 26 & 27
Dead Day	December 4
Final Examination	Thursday December 10, 4:00PM – 6:45PM
Final Grades Posted	December 17

Important UTEP Events:

Job Fair	Sept 2, 2020	10:00 am - 2:00pm (Wednesday) @ Virtual- Career Center website
UTEP Career Expo	Sept 18th	9:00am - 3:00 pm (Friday) @ Virtual- Career Center website

Syllabus Change Policy: Except for changes that substantially affect the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.

	Date	Class Topics	Activities/Assignments
WEEK 1	8/25 Tue	Syllabus Overview/ Hybrid Class - <u><i>Synchronous Class</i></u> Course Purpose & Philosophy	Read Syllabus and Agree to it via an online form - DUE 9/8 Team building (3 or 4) point of contact for the first project and class questions / support each other. Must complete Training Video “Miners Take Care of Miners” - DUE 8/27
	8/27 Thu	Defining the Engineer, Engineering Disciplines/Careers - <u><i>Synchronous Class</i></u> Setting SMART Goals - Resume Writing	Small group discussions on definition of <i>engineer</i> Resume Assignment - DUE 9/1 Why I Want to be an Engineer reflection - DUE 9/3 Choices 360 - DUE 9/3
WEEK 2	9/1 Tue	Engineering Design Process / <u><i>*Tentative Start Hybrid Class - Team 1*</i></u> Basic Math Review (Fractions, simplify, unit conversion, linear equations)	Small group discussions on definition of <i>engineering design process</i> Create account on Tinkercad and Fusion 360 - DUE 9/3
	9/3 Thu	Study Skills & Organization <u><i>*Hybrid Class - Team 2*</i></u> 3D CAD (Tinkercad & Fusion 360)	Tinkercad and Fusion 360 -Sketch(es) 3 possible student organizations - DUE 9/8 Project #1 (Center of Mass) - DUE 9/24
WEEK 3	9/8 Tue	Research Papers Guidelines/Tips <u><i>*Hybrid Class - Team 3*</i></u> 3D CAD (Fusion 360)	Math Assignment - DUE 9/17 Research Paper - DUE 10/1
	9/10 Thu	Fundamental of Ethics: Personal, Engineering & Professional <u><i>*Hybrid Class - Team 4*</i></u> Emotional Intelligence	In class group reflection on ethics and emotional intelligence Reflection about ethics and emotional intelligence - DUE 10/1
WEEK 4	9/15 Tue	UTEP Engineering History/Legacy GPA Calculation <u><i>*Hybrid Class - Team 1*</i></u> Time Management	Reflection piece about your week’s schedule - DUE 9/24
	9/17 Thu	Library Research Methods Session 1 <u><i>Synchronous Class</i></u>	Library Quiz Module must be done prior Library Session
WEEK 5	9/22 Tue	Math Review: Slope and Y-Intercept <u><i>*Hybrid Class - Team 2*</i></u> Intro to Circuits & Arduino	Work on all assignments that are DUE 9/24 & 10/1 Create Job Mine account & Register for next class workshop - DUE 9/22
	9/24 Thu	University Career Center: How the Career Center can Help Students (2:00 PM)	Attend Workshop at 2:00 PM will cover about Job Mine account, learn about internships, and access the online tools
	9/29 Tue	Exam 1 Review - <u><i>Synchronous Class</i></u>	Review of content from week 1 to 5, work on all assignments that are DUE 10/1

WEEK 6	10/1 Thu	Library Research Methods Session 2 - <u>Synchronous Class</u> EXAM #1 - Blackboard open from 10/1 until 10/4	EXAM #1 - DUE 10/4
	10/6 Tue	EXAM #1- Recap - Students will present about their first project - <u>Synchronous Class</u> Degree Plans - Critical Paths & High Impact Edge (UTEP Edge resources)	Have a game plan for next semester and Advisor's meeting - DUE 10/22 Project #2 (Tensegrity - group) - DUE 11/5
WEEK 7	10/8 Thu	*Tentative* Counseling Center Online Presentation TBD - <u>Synchronous Class</u>	Create account on vectr - DUE 10/15 . Work on Group Project Assignment
	10/13 Tue	Tentative* Student's Advisor Online Presentation TBD - <u>Synchronous Class</u>	Work on Group Project Assignment
WEEK 8	10/15 Thu	Art Design (Illustrator/ Inkscape/ Vectr) <u>*Hybrid Class - Team 3*</u> CNC and & Laser Engrave Equipment	Design Vector Graphics for Laser engrave and CNC - DUE 10/26
	10/20 Tue	Intro to Physics: Distance, Displacement, Vectors and Scalar - <u>*Hybrid Class - Team 4*</u>	Intro to Project #3 (Entrepreneur - group) - Submit Proposal by no later than DUE 11/3 Intro to Physics Assignment - DUE 11/2
WEEK 9	10/22 Thu	Documenting your research/Videography (iMovie/Lightworks/OBS) - <u>*Hybrid Class - Team 1*</u> Leadership & Success Principles; Project Management	Brainstorm on the components you will need in order to create a video for project 2 Spring 2021 Registration Begins - (10/26)
	10/27 Tue	Wix - How to create a website for Professional Portfolio and Project 2 & 3 - <u>*Hybrid Class - Team 2*</u> Coding - Matlab	Create your individual Professional Portfolio - DUE 11/5
WEEK 10	10/29 Thu	Computer Network / Scholarships & Study Abroad; Introduction to Binary & Digital Logic - <u>*Hybrid Class - Team 3*</u>	Intro to Physics Assignment - DUE 11/5
	11/3 Tue	Coding - Python - <u>*Hybrid Class - Team 4*</u>	Review of content from week 7 to 11, work on all assignments that are DUE 11/5
WEEK 11	11/5 Thu	Exam 2 Review - Synchronous Class EXAM #2 - Blackboard open from 11/5 until 11/8	EXAM #2 - DUE 11/8
	11/10 Tue	EXAM #2- Recap - <u>Synchronous Class</u> Students will present about their second project	Approved Project #3 (Entrepreneur - group) - DUE 12/1 Optional Paper Report Project - DUE 12/3
WEEK 12			

	Date	Class Topics	Activities/Assignments
	11/12 Thu	Physics: Newton's Laws <i>- *Hybrid Class - Team 1*</i>	Physics Assignment - DUE 11/23 Student's Topic Interest for 11/24 - DUE 11/19
WEEK 13	11/17 Tue	Student Orgs Outreach/Presentations (ASEE, ACM, MAES/SHPE) <i><u>Synchronous Class</u></i>	Work on Group Project Assignment
	11/19 Thu	Other UTEP programs such as: Cybersecurity/Yes She Can!/ Bandit Game Studio/ Tech-E <i><u>Synchronous Class</u></i>	Work on Group Project Assignment
WEEK 14	11/24 Tue	Last Session: (Students decide a topic they are interested and will cover it on this class) <i><u>Synchronous Class</u></i>	Work on Group Project Assignment
	11/26 Thu	Thanksgiving (Holiday) - No Class	No Class
WEEK 15	12/1 Tue	Students Present Project 3 <i><u>Synchronous Class</u></i>	Present and Submit Project 3 - DUE 12/1 Midnight
	12/3 Thu	Review for Final Exam & Last class for Question about all remaining Project and Assignments - <i><u>Synchronous Class</u></i>	Work on all pending remaining projects and assignments
	12/4 Fri	DEAD DAY (STUDY)	
	12/10 Thu	FINAL EXAM: Thursday December 10, 4:00PM – 6:45PM	

[Click here to sign the form](#)