

University of Texas at El Paso
Foundations of Engineering
UNIV 1301
Fall 2019

Course Information:

Classroom: ACES C-003

CRNs: 18189

Class Time: TR 1:30pm-2:50pm

INSTRUCTOR:	Amit Joe Lopes, Ph.D.
OFFICE:	A224
PHONE:	9157475958
EMAIL:	ajlopes@utep.edu
OFFICE HOURS:	TR 8:30am – 9:30am
PEER LEADER:	Brianna Lucero Email: blucero4@miners.utep.edu Office Hours: TBD
ADVISOR:	Alejandro Munguia amunguia2@utep.edu
LIBRARIAN:	Debjani Mukhopadhyay, LIB 215 dmukhopadhyay@utep.edu 915 747 6715
TEXT:	Studying Engineering: A Road Map to a Rewarding Career, 4 th Edition, by Raymond B. Landis (2013). Los Angeles: Discovery Press.
Fellow Classmate Contact	Classmate 1. Classmate 2.

Other materials needed:

One 3 ring binder or notebook for readings/handouts, class notes, assignments and/or journal entries.

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:

- Develop and apply elements of leadership through effective individual participation and meaningful team collaboration.
- Examine your roles and responsibilities crucial for your success in college and beyond.
- Identify, assess, and build on your strengths and experiences to develop academic and transitional strategies necessary for success in your academic, career, and life goals.
- Engage in research and critical thinking activities that demonstrate your ability to effectively integrate your learning within, across, and beyond academic settings
- Engage in campus and community activities to increase your sense of academic and social belonging.
- Through the 'Career Module' assignment, better understand the requirements to market your skills and knowledge for getting jobs

Grading:	3 Exams	60%
	Project and Presentation	20%
	Homework, quiz, class participation, activities and survey	20%

Project: The project will be a team design engineering project. Through the project students will develop and apply leadership and team collaboration skills. Throughout the project, students will be given instructions to learn and implement collaboration, communication, and conflict management skills.

Presentation: The presentation will be about the project you designed. It will be a fifteen minute presentation using power point. All of the team members are required to present.

Homework: The homework must be turned in at the beginning of the class by the due date. As part of your homework, you may be required to have at least 1 mentoring session and attend some UTEP events.

Quizzes: The quizzes will be given at the beginning of the class. No make-up quiz will be given if you are late or absent without valid reason.

Class Participation and Activities:

There will be many in class group and individual activities. In order to get a grade for them you must participate in the activity. There will be no make up for any of the class activities. Students will be introduced to ALL relevant Campus Associations and the benefits of joining them.

Survey: There will be an end-of-semester survey. Your participation is important and it will count as a homework and class activity.

Grading Scale:

100%-90%.....A
89% -80%.....B
79% -70%.....C
69% -60%.....D

59% - 0%.....F

Attendance:

You are required to come to class and be on time. Attendance is very important since during class you will be given the tools needed to successfully complete this class. You must contact your peer leader and/or instructor if you know you will be absent either by phone or email. It is your responsibility to get all the lecture notes, assignments, and hand-outs you missed. An excused absence will only be given as described in the undergraduate catalog. If you want to be dropped after the automatic W deadline, you must contact your professor or peer leader. Although you can be dropped for excessive absences (less than 75% attendance - 8 missed lectures), do not assume that if you stop showing up to class, you will be dropped.

Mentoring:

You will be meeting, on a one-to-one basis, with your peer leader and your instructor at least once during the semester. Each meeting will count as one homework.

Missing assignments and exams:

- You will be allowed one make up homework assignment during the course of the semester. 20 points will be deducted for each week the assignment is late.
- Exams can only be made up from the day the exam is given in class to the next class day. Example: if the exam is on a Tuesday, you can take the exam on that Tuesday, Wednesday (the next day) and Thursday (prior to the class time). However, 30 points will be deducted from your actual grade for missing an exam without valid reason

Academic Conduct:

Academic dishonesty will not be tolerated. You must submit your work only. If you are found to be cheating or plagiarizing, you will be subject to disciplinary action, per UTEP catalog policy (<http://www.utep.edu/dos/acadint.htm>).

Cell Phone Policy:

All cell phones must be turned off before the beginning of the class. If a student forgets to turn it off, he/she will have to leave the classroom and may only return with the instructor's permission.

UTEP Final Exam Policy:

Exemption from final examinations cannot be given. Final examinations are scheduled to be two hours, forty-five (45) 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 a 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.

Copyright Statement:

Some of the materials in this course are copyrighted. Violation of US copyright law can result in civil damages up to \$100,000 for each work copied. Copying of textbooks is not "fair use" under the Copyright Act. The "fair use doctrine" only permits non-commercial copying of part (in general, not more than 10%) of a copyrighted work. Do not bring a copied textbook to this class. Your cooperation is expected

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. Student will adhere to the 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. Please be aware that harassment is unacceptable in the classroom. Jokes, comments of sexual nature, as well as racist comments will not be tolerated. The student that violates this rule will be sent to the Dean of students for disciplinary action.

Scholastic Dishonesty:

Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

Students with Disabilities Policy:

If you have or suspect a disability and need an accommodation, please contact the Center for Accommodations and Support Services (CASS) office and provide their instructor with the proper documentation at the beginning of the semester. CASS office may be contacted at 747-5148, cass@utep.edu or go to Room 106 Union East Building.

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. Any changes made to the syllabus will be notified to the students by the instructor prior to the lecture week.

I welcome you to a new semester and hope that you will make the effort to learn as much as you can. I know each one of you has the potential to make an A.

Important Fall 2019 Dates:

Labor Day – no classes	September 2
Census Day	September 11
Homecoming Week	Sept. 30 – Oct. 6
Freshmen Mid-Terms Grades Available	TBD
Course Drop deadline	November 1
Thanksgiving – no classes	November 28-29
Dead Day	December 6

Important College of Engineering Dates:

Work at UTEP Fair	September 4
Career Expo	September 19-20
ACES Video Game Event	TBD
ACES Costume Contest	TBD
ACES Bike Rally (Get Ready for Finals)	TBD
NSPE-TX Engineering Mixer	TBD
Entering Student Research	TBD
Creative Projects Showcase	TBD

Tentative Course Lecture Calendar:

Date	Class Topic	Readings/Assignments/Activities
8/27 T Week 1	Course purpose and philosophy	Peer Leader Introductory Activity. Team Formations Reading: Ch. 1 (Sections 1-5) Win Day One Activity
8/29 R Week 1	Keys to Success in Engineering Study <i>Linear Equations</i>	Ch. 1 Questions Activity: Complete Chapter 1-Problem 17, 21-24
9/3 T Week 2	Keys to Success in Engineering Study <i>Linear Equations</i>	VR/AR Technology Introduction Advisor Presentation
9/5 R Week 2	The Engineering Profession - <i>Linear Equations (cont.);</i>	Homework - Linear Equations (HW #1) Work @ UTEP Job Fair
9/10 T Week 3	Engineering Profession - What is Engineering, its rewards, and its past?	Team Work: Engineering characteristics & rewards Reading Assign: Ch. 2, Sections 1 – 2, 4 - 5 Text Assign: Ch. 2, Problems 2 & 15
9/12 R Week 3	Library Visit and Orientation – Visit 1 of 2 Library Room 204A The	Reading Assign: Ch. 2, Sections 6 – 8 Text Assign: Ch. 2, Problems 23, 29 Library Guide – Breakthrough Tutorials: http://libguides.utep.edu/research/univ1301tutorials
9/17 T Week 4	The Teaching Learning Process <i>2D vectors</i>	Reading Assign: Ch. 2, Sections 9 -10 Homework – HW #2 – Vector Voyage Summary Academic Integrity Event
9/19 R Week 4	Career Services Presentation Career Module: Choices 360	Project Proposals Library Visit - Scavenger Hunt Career Module: Resume with STAR Statements
9/24 T Week 5	AR/VR Demo I in UGLC <i>2D vectors</i>	Reading Assign: Ch. 3, Sections 1- 4 Text Assign: Ch. 2, Problem 38 & Reflection Page 67 (Journal). See www.discovery-press.com/reflections.htm. Resume Worksheet and Assignment; Attend Career Expo 9/20 & 9/21
9/26 R Week 5	The Teaching Learning Process (Cont.) <i>Quadcopter Project</i>	Reading Assign: Ch. 3, Sections 5 – 7 Text Assign: Ch. 3, Problems 3 & 6 In-Class discussion: Learning styles
10/1 T Week 6	Engineering Info Session Compliance Visit	Team work on completing class projects – Graduate & Professional Schools Fair
10/3 R Week 6	Review for Exam #1	Note: Text Pages 149 - 151 – 5.3 Preparing For and Taking Tests Academic Skills Survey (end of Ch. 3) & Problems 12 & 13 of Ch. 3 (can be handwritten)
10/8 T Week 7	Exam #1	Exam #1 Math Topics: Linear Equations; 2D Vectors; Text Ch. 1 – 3
10/10 R Week 7	Making the Most of How You are Taught <i>Quadratic Equations;</i>	Reading Assign: Ch. 4, Sections 1 – 5 In-class activity: Problem 6 Text Assign: Ch. 4, Problems 3 (this class syllabus), 11 (note taking) (word process submission)
10/15 T	3D Printing with Tinker	Lecture from Hector Lugo UGLC 202 ATLAS Lab

Week 8	CAD	
10/17 R Week 8	Library Visit 2 of 2 Literature Review for AR/VR and Quadcopter	Reading Assign: Ch. 5, Sections 1 & 2
10/22 T Week 9	Making the Learning Process Work for you.	Reading Assign: Ch. 5 Homework - Right Triangle Trigonometry (HW #8) <i>Importance of Academic Advising and Organized Plan of Study</i>
10/24 R Week 9	Making the Learning Process Work for you (Cont.) <i>Right Triangle Trigonometry</i>	Text Assign: Ch. 5, Problem 3, 4, & 10 (word process submission) <i>Right Angle Trigonometry Assignment</i>
10/29 T Week 10	Personal Growth & Student Development	Text Assign: Ch. 6, Problems 24 & 27 (Word process submission) Group Discussion Ch. 6, Problems 7 & 22 <i>Project Update</i>
10/31 R Week 10	<i>Counseling Center Presentation</i> Personal Growth & Student Development (Cont.)	Reading Assign: Ch. 6, Sections 7, 8 & 9 Text Assign: Ch. 6, Problems 20 & 21 (word process submission)
11/5 T Week 11	Exam #2 Review	Exam #2 Topics – Quadratic Equations; Right Triangle Trigonometry; Chapter 4,5,6
11/7 R Week 11	Exam #2	Exam #2: Units & Conversions; Right Triangle Trigonometry Text Ch. 4 – 6
11/12 T Week 12	VR Demonstration II UGLC	Text Assign: Ch. 7, Problem 23 (develop 10 questions for Professor) (word process submission) Motivational Quote that “speaks to You” on notecard
11/14 R Week 12	Broadening Your Education; Laws of Cosines and Sines; Quadcopter Project Discussion	Group Work – Laws of Cosines and Sines; Class Discussion – Ch. 7 Problem 23 informational questions Becoming a World Class Engineer Assignment
11/19 T Week 13	Broadening Your Education; Study Abroad Presentation Laws of Cosines and Sines	Reading Assign: Ch. 8, Sections 1-4 Text Assign: Ch. 8, Problem 4, 15 Homework – Laws of Cos and Sine (HW #10)
11/21 R Week 13	Engineering Education Introduction to Technical Writing and Presentation;	Reading Assign: Ch. 8, Sections 4 - 8 Laws of Cosines and Sines; Text Ch. 7 & 8
11/26 T Week 14	Engineering Research Quadcopter Project	COURI Presentation (pre-professional experience & research): Team preparation for Project presentations
11/28 R Week 14	No Lecture	Thanksgiving Holiday
12/3 T Week 15	Exam #3 Review	Exam #3 Topics: Laws of Sines and Cosines; Text Ch. 7 & 8
12/5 R Week 15	Exam #3	Team Work: 3D Printing Product Build; Discussion on Course Report titled: ‘Becoming a World Class Engineer’
12/10 T Week 16	Final Project Presentations	Final Project Report Due, Dec. 9