

UNIV 1301 Seminar/Critical Inquiry
Foundations of Engineering
CRN 11201
Fall 2015 Syllabus
Mondays and Wednesdays, 10:30 – 11:50 a.m., CRBL 001

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Course Text

Readings from various sources, including Landis, R. B. (2007). *Studying engineering: A roadmap to a rewarding career*. Los Angeles: Discovery Press.

Course Description

Our course is the gateway to engineering at the University of Texas at El Paso and to the engineering profession. You will have the opportunity to make meaningful connections to engineering and to others in engineering while contributing to the UTEP legacy of leadership in developing outstanding students and career professionals. The foundational tools integrated into this course are:

Academic, personal, and professional growth skills
Engineering skills of critical thinking and problem solving
Mathematical tools and applications for engineering
Connections with the engineering profession

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.

Learning Environment

Our course is highly interactive with project- and team-based activities designed to meet the course outcomes. Thus, your commitment to and active participation in a team is critical for the success of each of the team-based projects in which you will be a member. Each team member will assume an expected level of responsibility and will be held accountable for his or her individual and group tasks and deliverables. In addition to these projects, you will also engage in various activities to effectively integrate you into engineering student life. Your active participation in all activities will ensure your success in this course.

Professional Responsibilities

On Attendance: As in all the courses you will take as a college student, your attendance is a necessary and critical component of our course. This is particularly important because our course is team-based. In the event of an absence, you need to check with one or two classmates to find out what you missed. Also, you will evaluate your peers at the end of the semester (and they will evaluate you) to determine your contribution to their learning in our course.

Participation: As pre-professionals in engineering, you should exhibit traits worthy of the profession, such as active participation and listening, questioning and clarification, summarizing others' ideas, trustworthiness/trustfulness, integrity, and respect. Participation points in the course will be evaluated on the following: activity in class discussions and project assignments; assignments/discussions on Blackboard; critical analysis/intellectual growth; collegiality; and preparedness.

Wireless Devices: As wireless devices are ubiquitous, professional discretion should be considered, as do professionals in the workforce, which includes shutting them off or setting them to mute/silent mode prior to class, and refraining from using them in any manner (except in an emergency). If you must answer your phone, leave the class discretely. You may return to the class once your call is finished.

Community Service: Students are expected to volunteer a minimum of 5 hours with a community or university organization that benefits others. Documentation is required for gaining credit for this portion of your grade.

Projects:

- 1. Keys to Engineering Success Project:** Teams of three to four persons will identify, investigate, and make presentations on essential skills necessary for success in college and in engineering studies.
- 2. Mathematics Enrichment Institute [MEI]:** Teams of six will each become "expert" in a pre-calculus concept to prepare your foundation for the mathematics courses you will take as an engineering undergraduate student.
- 3. Lego Mindstorms Project:** Teams of three to four persons will participate in a design project using LEGO Mindstorms.

Blackboard and Email

Students are expected to log into Blackboard and scan UTEP email and announcements at least once a day, preferably twice.

Grading

Student Assessment: Learning Expectations and Scale:

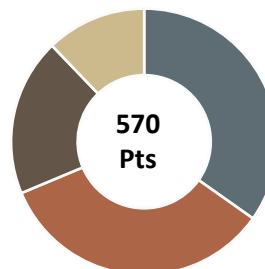
Attendance	of course	
Participation/Growth	20	Engineering notebooks	50
Keys to Engineering Success	50	Robotics team status reports	50
Presentation/Proposal Project		Gold Rush [#]	10
Interview Preparation Email	10	Introduction to Project Workshop	10
Interview Preparation-Probing Questions	10	Research Workshop	10
Additional Blackboard Assignments	20	Lego Mindstorms Project Team Reflections	20
ESP Online Course Survey	10	Lego Mindstorms Project Team Status Reports	20
Peer Evaluations	30	Lego Mindstorms Project – Final Demonstration	70
Resume Iterations [#]	10	Lego Inventory	60
Career Expo [#]	10	Project-Based Final	10
Mock Interview [#]	10	Daily reflections	70
Community Service [#]	10		

[#] Part of Pre-Professional Experiences

Grand Total: 575

- A = 90-100%
- B = 80 - 89%
- C = 70 - 79%
- D = 60 - 69%
- F < 60%

Your total divided by the Grand Total = your % grade.



Important Academic Dates

Labor Day – No Classes	September 7
Midterm grades submitted	October 21
Midterm grades emailed	October 26
Course drop deadline	October 30
Thanksgiving – No Classes	November 26 - 27
Dead Day	December 4
Final Examination Week	December 7 – 11

<u>Important College of Engineering Dates</u>	<u>Location</u>
Gold Rush and Open House, September 2	Engineering Breezeway
TSPE Networking Mixer, October 13	Mike Loya Academic Services Bldg., Room 131
TCM Day, March 18	All Over Campus
Engineering Pre-Commencement, Dec. 11	Magoffin Auditorium
Other important dates	http://engineering.utep.edu/plaza/Studentlife/index.htm

Pre-Professional Experiences:

Career Expo	September 17 & 18, Don Haskins, 9-2
Graduate & Professional School Fair	September 30, Union Building, 10-2
Other important dates	http://sa.utep.edu/careers/

Students with Disabilities or in Need of Classroom Accommodations

If you have or believe you have a disability and/or need classroom accommodations, you may wish to self-identify. You can do so by providing documentation to The Center for Accommodations and Support Services (CASS) located in Union East Room 203. Students who have been designated as disabled and/or in need of classroom accommodations must reactivate their standing with on a yearly basis. Failure to report to CASS will place a student on the inactive list and nullify benefits received. If you have a condition which may affect your ability to exit safely from the premises in an emergency or which may cause an emergency during class, you are encouraged to discuss this in confidence with the instructor and/or director of Disabled Student Services. Call 747-5148 or email cass@utep.edu for more information about the American Disabilities Act (ADA).

Academic Integrity

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 the Dean of Students and on the homepage of the Dean of Students at www.utep.edu/dos.

CALENDAR

DATE	DISCUSSION & ACTIVITIES	ITEMS DUE
Monday, Aug 24 Week 1	<ul style="list-style-type: none"> Nametag Activity Introduction to course and syllabus 	<ul style="list-style-type: none"> Meet colleagues Nametags
Wednesday, Aug 26 Week 1	<ul style="list-style-type: none"> Overview of Mathematics Enrichment Institute [MEI]: pre-calculus concepts Success team assignments and responsibilities Keys to Engineering Success proposal development 	<ul style="list-style-type: none"> Success proposals due at the end of class
Monday, Aug 31 Week 2	<ul style="list-style-type: none"> Family Base Groups formed Keys to Engineering Success assignments made 	<ul style="list-style-type: none"> Work on Success
Wednesday, Sep 2 Week 2	<ul style="list-style-type: none"> Mathematics Enrichment Institute [MEI]::expertise pairs preparation Assignment 1: Review Career Center website on resumes to build your resume due on Wed., Sept. 9 Assignment 2: Gold Rush 	<ul style="list-style-type: none"> Gold Rush questionnaire due at ESLC booth, Tuesday, Sep 2 Continue Success research
Monday, Sep 7 Week 3	LABOR DAY HOLIDAY NO CLASS	
Wednesday, Sep 9 Week 3	<ul style="list-style-type: none"> Base group activity MEI expert preparation 	<ul style="list-style-type: none"> Continue building MEI expertise Resume
Monday, Sep 14 Week 4	<ul style="list-style-type: none"> Family Base Groups MEI::Teach & Learn FUNCTIONS/ POLYNOMIALS In ad hoc teams, Self- and peer-critique of resumes with an aim to improve resumes for assignment due on Wed., 9/16 	<ul style="list-style-type: none"> Assignment Due: Resume [BRING A HARD COPY TO CLASS] Continue building MEI expertise
Wednesday, Sep 16 Week 4	<ul style="list-style-type: none"> MEI expertise preparation (FUNCTIONS/ POLYNOMIALS “experts” join another concept team) Peer evaluation of resumes 	<ul style="list-style-type: none"> Assignment Due: 2nd iteration of resume Assignment Due: Job Mine
Thurs./Fri., Sep 17 & 18 Week 4	<ul style="list-style-type: none"> Teams meet and investigate engineering companies to become aware of coop/intern opportunities 	<ul style="list-style-type: none"> Swipe your Miner card at Career Fair Assignment Due: Career Fair questionnaire completed
Monday, Sep 21 Week 5	<ul style="list-style-type: none"> Family Base Groups Success presentations Provide peer feedback to teams 	<ul style="list-style-type: none"> Prepared for Success
Wednesday, Sep 23 Week 5	<ul style="list-style-type: none"> MEI::Teach & Learn EXPONENTIAL / LOGARITHMIC FUNCTIONS / COMPLEX NUMBERS 	<ul style="list-style-type: none"> Provide peer feedback to teams
Monday, Sep 28 Week 6	<ul style="list-style-type: none"> Family Base Groups Robotics project and engineering notebooks overview Team assignments; team role assignments MEI :: UNIT CIRCLE 	<ul style="list-style-type: none"> Continue reviewing mathematics concepts
Wednesday, Sep 30 Week 6	<ul style="list-style-type: none"> Robotics project 	<ul style="list-style-type: none"> Continue reviewing mathematics concepts
Monday, Oct 5 Week 7	<ul style="list-style-type: none"> Family Base Groups MEI::UNIT CIRCLE 	<ul style="list-style-type: none"> Engineering notebook check (5 points)
Wednesday, Oct 7 Week 7	<ul style="list-style-type: none"> Check out kits, ACES 003 Switch roles/robotics project 	<ul style="list-style-type: none"> **Due on Blackboard: Robotics team status report [team manager] Who has done what? Be specific. Continue LEGO programming
Monday, Oct 12 Week 8	<ul style="list-style-type: none"> Family Base Groups SHAPES Personality Workshop MEI 	<ul style="list-style-type: none"> Continue robotics team project Continue review of your mathematics topic
Wednesday, Oct 14 Week 8	<ul style="list-style-type: none"> Robotics 	<ul style="list-style-type: none"> Due on Blackboard: Robotics team status report
Monday, Oct 19 Week 9	<ul style="list-style-type: none"> Family Base Groups Advising for Spring 2015 semester 	<ul style="list-style-type: none"> Continue robotics design

Wednesday, Oct 21 Week 9	<ul style="list-style-type: none"> Robotics Switch roles 	<ul style="list-style-type: none"> Engineering notebooks check (5 points)
Monday, Oct 26 Week 10	<ul style="list-style-type: none"> Family Base Groups MEI Trust Workshop 	<ul style="list-style-type: none"> Continue robotics design
Wednesday, Oct 28 Week 10	<ul style="list-style-type: none"> MEI::Teach & Learn UNIT CIRCLE Conflict Management Workshop 	<ul style="list-style-type: none"> Engineering notebooks check (5 points)
Monday, Nov 2 Week 11	<ul style="list-style-type: none"> Family Base Groups JEOPARDY 	<ul style="list-style-type: none"> Due on Blackboard: Robotics team status report Peer review of project status
Wednesday, Nov 4 Week 11	<ul style="list-style-type: none"> JEOPARDY 	<ul style="list-style-type: none"> Prepare for Jeopardy
Monday, Nov 9 Week 12	<ul style="list-style-type: none"> Family Base Groups MEI::Teach & Learn TRIGONOMETRIC FUNCTIONS Robotics cont'd; switch roles on robotics teams 	<ul style="list-style-type: none"> Engineering notebooks check (5 points)
Wednesday, Nov 11 Week 12	<ul style="list-style-type: none"> Mock Interviews at Career Center Robotics design continues Status check on robotics project 	<ul style="list-style-type: none"> Continue research
Monday, Nov 16 Week 13	<ul style="list-style-type: none"> Family Base Groups COMPLIANCE Conflict Management Workshop Robotics design continues 	<ul style="list-style-type: none"> Due on Blackboard: Robotics team status reports
Wednesday, Nov 18 Week 13	<ul style="list-style-type: none"> Overview of robotics presentations 	<ul style="list-style-type: none"> Continue working on your robotics project
Monday, Nov 23 Week 14	<ul style="list-style-type: none"> Family Base Groups Prepare final presentation 	<ul style="list-style-type: none"> Finalize engineering notebooks
Wednesday, Nov 25 Week 14	<ul style="list-style-type: none"> Prepare final presentation 	<ul style="list-style-type: none"> Engineering notebooks due
Monday, Nov 30 Week 15	<ul style="list-style-type: none"> Family Base Groups FINAL PRESENTATIONS, Part I 	<ul style="list-style-type: none"> Constructive critique Self-assessment
Wednesday, Dec 2 Week 15	<ul style="list-style-type: none"> FINAL PRESENTATIONS, Part II 	<ul style="list-style-type: none"> Constructive critique Self-assessment *Due on Blackboard: Final Reflection
Finals Week, Dec 7-11	<ul style="list-style-type: none"> FINAL PROJECTS DUE 	<ul style="list-style-type: none"> ESP online end-of-semester feedback survey