

**The University of Texas at Austin**  
**Department of Civil, Architectural and Environmental Engineering**

**ARE 323K – Project Management and Economics – Maymester 2019**  
**Unique: 14974**

**INSTRUCTOR:** Dr. Fernanda Leite  
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**MEETINGS:** Per course calendar

**OFFICE HOURS:** Dr. Leite: by appointment only

I encourage students to come see me to address any questions or concerns about the course material or other issues. If you are unable to come to my office during my office hours, the next best method to get in touch with me is by email. Please allow 24 hours for an email response on business days.

**WEB PAGE:** You will find the online materials for this course at the Canvas web site at: [canvas.utexas.edu](https://canvas.utexas.edu)

**COURSE CATALOG DESCRIPTION:** Solving economic problems related to construction and engineering; construction project management techniques; characteristics of construction organizations, equipment, and methods.

**PREREQUISITE:** Mathematics 408D or 408M, Civil Engineering 333T

**ACADEMIC/LEARNING GOALS:** This class is an introduction to project management and economics, which in real life are closely related topics. It is hard to be a good project manager without a working knowledge of finance and cash flow. And while some people get really good at economic calculations, applying the results usually takes some project management skill, whatever the domain. As such, my two main objectives for the course are:

- (1) Learn the basics of how a project comes together (time line, main components, participating organizations, etc.). Applications will be construction focused, but many of the ideas are generalizable.
- (2) Learn to be smart about money on projects (investment, budgeting, risk and decision making).

By taking this class you will be able to:

- (1) Define and describe the main elements in the project timeline and as well as the major sub-elements
- (2) Apply net present value and related concepts to the analysis of cash flows, including selection of alternatives
- (3) Develop elementary project schedules and perform basic scheduling calculations
- (4) Estimate construction costs and prepare a basic bid package
- (5) Identify risks in each phase and apply sensitivity analysis to quantify risks in cost and time where possible/practicable.

## TEXTBOOK AND READINGS:

NOTE: All assigned readings are required to be completed before class. As I expect you to be familiar with them, I have every right to ask you questions about the reading during class time.

There is one required textbook for the course, which is available at the bookstore:

- Newnan, Lavelle, and Eschenbach. (2017). Engineering-Economic Analysis. 13th Edition. Oxford University Press, New York/Oxford.

Supplemental reading material will be distributed on the course website (Canvas) or in class.

## GRADING:

Grade components will be weighted as follows in the computation of the final course grade:

Quizzes/Exams	50% (individual weights vary)
Case Study	30%
Discussion write-ups	10%
Pop quizzes/attendance	<u>10%</u>
	100%

The correspondence of letter grade to numerical grade is:

A:	$\text{grade} \geq 93$
A-:	$90 \leq \text{grade} < 93$
B+:	$87 \leq \text{grade} < 90$
B:	$83 \leq \text{grade} < 87$
B-:	$80 \leq \text{grade} < 83$
C+:	$77 \leq \text{grade} < 80$
C:	$73 \leq \text{grade} < 77$
C-:	$70 \leq \text{grade} < 73$
D+:	$67 \leq \text{grade} < 70$
D:	$63 \leq \text{grade} < 67$
D-:	$60 \leq \text{grade} < 63$
F:	$\text{grade} < 60$

As the plus/minus system allows fairer grading, assigned grades will **strictly** follow calculated scores.

Quizzes and exams are closed book, closed notes examinations. I may curve exam scores upward if the class mean is low. Calculators are allowed provided you haven't programmed them with notes. The final will be cumulative. Other exams will cover part of the class material (subjects will be announced in class). Exams may include problems, definition/matching, multiple choice, and short answer questions as appropriate to the material covered. This class has both quantitative and qualitative elements and both will be tested.

Homework consists of traditional problem sets as well as short written questions relating to the course materials and reading. Homework assignments should be completed individually, but I encourage study groups for discussion. Length of homework assignments will vary, and weighting of homework grades will vary with length and difficulty. Discussion write-ups are short one page or so written homework done in groups of three. Preferably these will be natural study groups. There will be a write-up about every two or three weeks based on a short reading or response to a video. The intent is to get you thinking about broader issues related to class materials. Write-ups will be due at the beginning of class and serve as the basis of discussion. I will randomly call on a group to start discussion by giving their answers to the write-up questions.

All assignments **are due at the beginning of the period assigned** and those turned in late will count off **10% per day**. Late period begins 10 minutes after class start time (e.g., if class starts at 9:30am, any assignment turned in after 9:40am is considered late).

### **GRADE DISPUTES:**

Your grades will be posted on Canvas and you should check there often to make sure that the posted scores are correct. Any grade disputes need to be made in writing to the instructor up to **3 calendar days** after the grades have been posted on Canvas or distributed in class, whichever occurs first, regardless of whether the student in question was present in class or not. No dispute will be accepted after the deadline. Any grade dispute request will result in the full homework, exam or quiz being re-graded, and not just the problem in question. Thus, your total grade may stay the same, increase or decrease.

### **ATTENDANCE:**

Class participation (5% of your class grade) is based on attendance. Attendance in this class is strongly encouraged. There is a lot of learning that goes on in the classroom, so I want students to attend and participate. As such, I will take attendance through pop quizzes on most days at the beginning of class.

Class attendance will count towards class participation grade. Students get one unexcused absence free. After that, each unexcused absence counts as one letter grade less towards your final score for class participation. Please contact me *ahead of the class* if you need an excused absence (e.g., travel for job interview, student activity, etc. Family fun is NOT an excused absence). I hold the right to request official evidence/documentation to explain your absence. An email from yourself may not be accepted as proper documentation. If you miss a class due to illness (or death other than your own) and were not able to contact me before class, please provide me with *evidence of your illness* (e.g., doctor's note. An email from yourself stating you were sick does not qualify as proper evidence) the next class day you attend. Note: No 'free' unexcused absences are allowed on days with guest speakers (e.g., no freebies on days when people take the time to come and speak to you!). Note 2: extended absences without excuse are grounds for a failing grade in the course (per university policy).

If you have a long-term problem or family emergency, please talk with me about it as soon as possible so we can make mutually agreeable accommodations. It is difficult for me and generally unfair to other students if you approach me after the fact.

The instructor will not accept absence excuses after the fact. For example, if you did not attend class and did not provide evidence that would qualify for an excused absence before your absence or, in case of illness or death in the family, by the next class you attended, your absence cannot be excused.

### **COURSE INSTRUCTOR SURVEY/EVALUATION:**

An evaluation of the course and instructor will be conducted at the end of the semester using the approved UT Course/Instructor evaluation forms. Feedback from students will be requested throughout the semester.

### **GENERAL ADMINISTRATIVE RULES AND ANNOUNCEMENTS:**

#### Scholastic dishonesty policy:

A notice regarding Academic Dishonesty, UT Honor Code (or statement of ethics), and an explanation of what constitutes plagiarism. (Note: Student Judicial Services implements and interprets University regulations related to student behavior and works with faculty members regarding academic dishonesty.)

For additional information on these items, see the Dean of students' website and University General Information Catalog at: <http://deanofstudents.utexas.edu/sjs/> and <http://catalog.utexas.edu/general-information/appendices/appendix-c/student-discipline-and-conduct/>.

#### Students with Disabilities:

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, 512-471-6259 (videophone: 512-410-6644) or <http://diversity.utexas.edu/disability/>.

Privacy – Web Based Class Sites:

Web-based, password-protected class sites may be associated with all academic courses taught at the University. Syllabi, handouts, assignments and other resources are types of information that may be available within these sites. Site activities could include exchanging email, engaging in class discussions and chats, and exchanging files. In addition, electronic class rosters will be a component of the sites. Students who do not want their names included in these electronic class rosters must restrict their directory information in the Office of the Registrar, Main Building, Room 1. For information on restricting directory information, see: <https://registrar.utexas.edu/students/records/restrictmyinfo>.

Counseling:

The University of Texas at Austin maintains extensive counseling facilities for students. Resources are available at <http://www.utexas.edu/student/cmhc/>. The instructor recommends that you visit this website to become acquainted with the range of services available.

Drop policy for long sessions:

From the 1st through the 12th class day, an undergraduate student can drop a course via the web and receive a refund, if eligible. From the 13<sup>th</sup> class day through the university's academic drop deadline, a student may Q drop a course with approval from the Dean, and departmental advisor. After the academic drop deadline has passed, a student may drop a course only with Dean's approval, and only for urgent, substantiated, non-academic reasons.

Class web sites, use, and student privacy:

This class will use Canvas for posting course announcements, changes to the syllabus, schedule, grades, additional reading materials, assignments, etc. I will also send messages via e-mail over the course e-mail list which I inherit from the registrar/CLIPS. IT IS YOUR RESPONSIBILITY to make sure that address is up-to-date and an address you read frequently – and one that has space to receive messages. E-mails bounced back to me are not my responsibility. As to privacy, let me know as soon as possible if you do not want your name on class lists, etc. The University has this policy: Web-based, password-protected class sites will be associated with all academic courses taught at the University. Syllabi, handouts, assignments and other resources are types of information that may be available within these sites. Site activities could include exchanging e-mail, engaging in class discussions and chats, and exchanging files. In addition, electronic class rosters will be a component of the sites. Students who do not want their names included in these electronic class rosters must restrict their directory information in the Office of the Registrar, Main Building, Room 1. For information on restricting directory information, see the Undergraduate Catalog.

**IMPORTANT DATES:**

No classes on March 13 and 15 due to Spring Break. January 19 is the last day of the official add/drop period; after this date, changes in registration may require the approval of the department chair and usually the student's dean. January 31 is the last day to drop a class for a possible refund. April 2 is the last day to change the course to/from pass/fail. April 2 is the last day an undergraduate student may, with the dean's approval, withdraw from the University or drop a class except for urgent and substantiated, nonacademic reasons.