



IE 2308-002: Economics for Engineers
Course Syllabus: Spring 2017
TR 12:30am – 1:50pm, SH 332

Instructor: Dr. Yuan Zhou

Office Number: WH 420-P

Email: yuan.zhou@uta.edu

Office Hours: TR 10:00am – 11:30am

(or by email appointment, include IE2308 in the subject)

Section Information: IE 2308-002 | 3–Lecture Hours | 0 Lab Hours

Description of Course Content: This class provides students with the basic decision making tools required to analyze engineering project alternatives in terms of their worth and cost, an essential element of engineering practice. Students are introduced to the concept of the time value of money and the methodology of basic engineering economy techniques. The class also provides students with the background to enable them to pass the Engineering Economy portion of the Fundamentals of Engineering exam. The class has many applications in personal life. This course satisfies the University of Texas at Arlington core curriculum requirement in social and behavioral sciences.

Student Learning Outcomes:

- **Critical Thinking Skills:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- **Communication Skills:** to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- **Empirical and Quantitative Skills:** to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.
- **Social Responsibility:** to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national and global communities.

Required Textbook: Basics of Engineering Economy, 2nd Edition, Leland T. Blank and Anthony Tarquin, ISBN-13 9780073376356

Note that a 'Xerox' copy of the text will not be allowed in class due to copyright laws.

Descriptions of major assignments:

- **Examinations:** Three (3) non-cumulative exams, unless you miss an exam with an excused absence.
- **Project:** This must be completed in order to receive a grade in the class. It is a "key assignment". Project deliverables include an oral presentation and a report.
- **Quizzes:** Pop quizzes will be given for each covered chapter. Name and student ID must be **printed** on all papers handed in. I expect to drop one quiz grade for the final grade calculations.
- **Homework:** Weekly homework and/or reading will be assigned on Tuesdays. Homework will be collected every two weeks.

Key Assignment Assessment: The project will be the key assignment for this class. Each of the Student Learning Outcomes listed on this syllabus will be assessed for the project. The project will be turned in via Blackboard and evaluated for originality by SafeAssign. In addition, a paper copy will be submitted on the due date for grading.

Topics Covered (Textbook Chapter 1-11):

1. Foundations of Engineering Economy
2. Factors: How Time and Interest Effect Money
3. Nominal and Effective Interest Rates
4. Present Worth Analysis
5. Annual Worth Analysis
6. Rate of Return Analysis
7. Benefit/Cost Analysis and Public Sector Projects
8. Breakeven, Sensitivity and Payback Analysis
9. Replacement and Retention Decisions
10. Effects of Inflation
11. Estimating Costs

Attendance: You are responsible for the material presented in class when you are absent. It is important that you attend class on a regular basis. This will save you a lot of preparation time for homework and exams.

Tentative Key Schedule Dates: *As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course – Yuan Zhou*

February 23 (Thu.)	Exam 1 (Ch 1-4)
March 30 (Thu.)	Exam 2 (Ch 5-7)
March 31 (Fri.)	Last day to drop course (undergraduate students)
May 2 (Tue.)	Project due
May 4 (Thu.)	Last normal class session
May 11 (Thu.)	Exam 3 (Ch8-11) – 1hr 20min

General Policies/Guidelines:

- If you require an accommodation based on disability, please meet with me in the privacy of my office, during the first week of the semester, to make sure you are properly accommodated.
- All exams and exercises are open book, closed notes (1 formula sheet 8.5 x 11" is allowed for exams). The formula sheet should not include worked problems. You must turn in your formula sheet with your exam.
- Students must work alone on exams and exercises. No sharing of any materials may occur during exams including books, calculators, formula sheets, etc.
- Selected exercises from the text will be assigned as homework. A subset of these homework assignments may be collected and graded. Recommendation: Do the homework and more – it will help you learn.
- Students need to individually turn in homework assignments, e.g. one assignment turned in per student with your name on it. However, homework can be worked jointly with other students.
- If you miss an exam, you must have an approved excuse (i.e. from a medical doctor with contact information indicating you were too ill to sit for an exam or have gotten permission from the instructor at least a couple of days in advance of the exam).
- Cell Phones / pagers / etc. should be turned off or set to vibrate during class. Any necessary calls and communication should be made outside the class. Please be courteous to the instructor and your fellow classmates.

Grading: Grades are based on performance. Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels.

- Course grade will be comprised of performance on in-class exercises, homework, exams and project

Assignment Component	Percentage
In-Class Exercises/Homework	15%
Exams	75% (25% each)
Project	10%
Total	100%

- Course grade will be determined by the following: A \geq 90%; B \geq 80%; C \geq 70%; D \geq 60%; F < 60%.

Make-up Exams/Late Submissions: Makeup exams will be administered only under extenuating circumstances with official documents, if I am notified in advance. Late submission of homework and project work is subject to a 20% reduction of points per school day, e.g., one day late of a 10-point homework will be assessed to a 2-point reduction. Late work will not be accepted after five school days.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wwwb.uta.edu/aao/fao/>).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA)*, *The Americans with Disabilities Amendments Act (ADAAA)*, and *Section 504 of the Rehabilitation Act*. All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of **a letter certified** by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting: **The Office for Students with Disabilities, (OSD)** www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information,*

and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.

Title IX Policy: The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.*

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University. Additional information is available at <https://www.uta.edu/conduct/>.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

Student Feedback Survey: At the end of each term, students enrolled in face-to-face and online classes categorized as “lecture,” “seminar,” or “laboratory” are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback via the SFS database is aggregated with that of other students enrolled in the course. Students’ anonymity will be protected to the extent that the law allows. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: for semester-long courses, a period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located immediately next to the classroom door. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include [tutoring](#), [major-based learning centers](#), developmental education, [advising and mentoring](#), personal counseling, and [federally funded programs](#). For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at <http://www.uta.edu/universitycollege/resources/index.php>.

The IDEAS Center (2nd Floor of Central Library) offers **free** tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email IDEAS@uta.edu or call (817) 272-6593.

The English Writing Center (411LIBR): The Writing Center Offers free tutoring in 20-, 40-, or 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Our hours are 9 am to 8 pm Mon.-Thurs., 9 am-3 pm Fri. and Noon-6 pm Sat. and Sun. Register and make appointments online at <http://uta.mywconline.com>. Classroom Visits, workshops, and specialized services for graduate students are also available. Please see www.uta.edu/owl for detailed information on all our programs and services.

The Library's 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library's hours of operation. <http://library.uta.edu/academic-plaza>

Librarian to Contact: Martin Wallace – martin.wallace@uta.edu

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381