



Sichuan University - Pittsburgh Institute

IE 1035 – Engineering Economic Analysis

Fall 2020

Course Syllabus

(Subject to be changed)

Instructor

Dr. Steve H. Wang (Email: steve.wang@scupi.cn, Tel:13241870375)

Office: Zone 4, TBA

Office Hours: Monday, Wednesday 13:50 to 16:25; Thursday 08:15 to 11:00

Teaching Assistant

Remon Ding (丁鑫濤) (Email:2017141523048@stu.scu.edu.cn)

Office: TBA or WeChat

Office Hours: TBA or WeChat

Lecture

Mondays, 08:15 to 11:00, Zone 4, 216

Course Description

This course considers the broad question of how to make good decisions in an engineering context. Money is used as a representation for any set of resources that may come into play in engineering a system. We will discuss the basics of decision making from an economic point of view, learn a number of terms and common formulae, and practice several types of calculations used in engineering economic analysis.

Course Prerequisites

IE junior status or instructor's permission.

Course Objectives

1. An ability to apply knowledge of mathematics, science, and engineering.
2. An ability to identify, formulate and solve engineering problems.
3. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
4. A knowledge of contemporary issues.

Applicable ABET Outcomes

Upon successful completion of this course, students should be able to:

1. describe the economic concepts of supply, demand, and production
2. conduct simple cost-benefit analysis and break-even analysis
3. describe return on investment and the time value of money
4. have the skills necessary to manage money
5. understand and apply the accounting for risk as applied to the engineering process

Textbook

Newman, Eschenbach, and Lavelle, Engineering Economic Analysis, 13th Edition, Oxford University Press, 2017, ISBN-13: 978-0190296902.

Grading

Participation in Classroom Discussions/Exercises:	10%
Assignments:	30%
Group Project:	20%
Examination # 1:	10%
Examination # 2:	10%
Final Examination:	20%

Exams

There will be three exams, all are CLOSED BOOK, CLOSED COMPUTER. You may have a A4 note. If you must miss an exam, you should make alternative arrangements with the instructor before the exam is given. If you miss an exam without prior notification, you will receive a score of “zero” for that exam except under extenuating circumstances.

Assignments and Quizzes

Homework will be assigned weekly and needed to be finished before the next class. I will invite students to solve some of the questions in the class and give the bonus points to these students. You are encouraged to work on these assignments with your classmates. You do not need to submit your homework assignments on the Blackboard. However, we will have in-class activities or quizzes weekly. These events will cover the contents of this week which may be a case study for the in-class activities. We may have six to eight quizzes for the semester. No make-up quizzes or in-class activities are allowable except under extenuating circumstances.

Group Project

Group project will be described in separate handouts as they are assigned.

Participation

Regular attendance as well as active classroom participation is expected. Any required student absences should be reported to the instructor in advance via email or if not possible in advance, shortly thereafter. Maximum ten points will be given to the students who attended all of the classes and accumulated the highest points of the answer questions during the class. The rest of the students will gain the points by the ratio of their points and the highest points times ten.

Avoiding Plagiarism

1. Unacknowledged direct copying from the work of another person, or the close paraphrasing of somebody else's work, is called plagiarism and is a serious offense, equated with cheating in examinations. This applies to copying both from other students' work and from published sources such as books, reports or journal articles.
2. Paraphrasing, when the original statement is still identifiable and has no acknowledgement, is plagiarism. A close paraphrase of another person's work must have an acknowledgement

to the source. It is not acceptable for you to put together unacknowledged passages from the same or from different sources linking these together with a few words or sentences of your own and changing a few words from the original text: this is regarded as over-dependence on other sources, which is a form of plagiarism.

Tentative Course Schedule

Week	Date	Topics	Chapter
1	9/7	Introduction and Economic Decisions	1
2	9/14	Cost and Interests	2&3
3	9/21	Present Worth and Time Periods	4&5
4	9/28	Uniform Series and Capital Recovery	6
5	10/5	National Week Holiday	
6	10/12	Exam 1	
7	10/19	Alternatives and Loan	8
8	10/26	Future Worth, Payback Period, and Break Even	9
9	11/2	Depreciation and Inflation	11&14
10	11/9	Rate of Return Analysis	7
11	11/16	Exam 2	
12	11/23	Income Taxes for Cooperations	12
13	11/30	Personal Finance	12
14	12/7	Replacement Analysis	13
15	12/14	Reviews	
16	12/21	Group Presentation	
17	12/28	Final Exam	

Course QQ:

