



**Illinois Institute of Technology
Stuart School of Business
Course Syllabus: ECON 423-01 & 02
Fall Semester 2011**

Instructor Information

Name: John R. Twombly.

Office: 3424 S. State Street, Suite 4B9.

Telephone: 312 567-3997 (just 7-3997 from an IIT campus phone).

Fax: 312 567-5059 (7-5059 from a campus phone).

E-mail: twombly@stuart.iit.edu.

Office hours: Mon. (3:30 - 5:00), Wed. (3:30 - 4:30), and by appointment.

TA Information: Xiaoxia (Cathy) Lu. See her information on Blackboard.

Course Information

Course #: ECON 423.

Course name: Economic Analysis of Capital Investments.

Course description: Economics 423 is concerned with the economic evaluation of alternative investments involving technical or engineering considerations. This is an important subject matter for students of science and engineering because (a) knowledge of the way proposals are evaluated will help direct their efforts to projects with a higher probability of being realized, (b) they may be called upon to undertake studies of proposed capital investments in areas of their own technical expertise, (c) many engineers and scientists become managers in positions where they will use these methods in reaching decisions, (d) the engineers' professional examinations include a section on engineering economics, and (e) personal financial decisions involving home mortgages, car loans, real estate investments, etc. can be made using methods presented in this course.

Course day and time: Mondays/Wednesdays, 11:25 AM to 12:40 PM (LS 111)

Course Objectives: Upon completion of this course, the successful student should be able to :

1. Calculate the present value, future value and equivalent annual worth for various types of cash flow streams;
2. Apply five basic methods for making engineering economy studies;
3. Perform engineering economic analyses involving depreciation, taxes, inflation, uncertainty and non-monetary attributes; and
4. Pass the engineering economics section of professional engineers' examinations.

Prerequisites: There are no official prerequisites but an affinity for math helps.

Required Course Materials

Text: Engineering Economic Analysis (11th edition), Newnan, Eschenbach and Lavelle, Oxford University Press (ISBN #978-0-19-977804-1)

Materials: Study Guide to Accompany the textbook (may be purchased as a package with the text).

Software/Hardware: None.

Programming Skills: None.

Text References: None.

Recommended Course Materials

Supplemental texts/readings: None.

Software/Hardware: I personally use a Hewlett-Packard financial calculator, the HP-10BII. If you were to purchase one, I could help you use it, and my HP stock would increase in value.

Some other good books: The Wealthy Barber, Updated 3rd Edition: Everyone's Commonsense Guide to Becoming Financially Independent (Paperback) and The Millionaire Next Door (Paperback).

Text References: None.



Course & Instructor Policies

Make-up: Only in very very very special circumstances will I allow make-up work.

Late work: Late work will not be accepted.

Special assignments: All students must complete the assignments on the syllabus.

Class attendance: I don't require class attendance, but prior students have indicated that it very important to attend class. The Provost's Office might require sign-in sheets.

Classroom conduct: Don't disturb other students or me. If you come late, or have to leave early, do so quietly and without fanfare. For exams, sit in alternate seats when possible.

Discipline: Be courteous to all members of the class and expect that of them.

Grading System/Policy

| Percentages for assignments: | <u>I</u> | or | <u>II</u> | or | <u>III</u> |
|-------------------------------|----------|----|-----------|----|------------|
| Class Exercises/Participation | 0% | | 0% | | 0% |
| Homework | 10% | | 10% | | 10% |
| First Hourly Exam | 25% | | 0% | | 0% |
| Second Hourly Exam | 25% | | 40% | | 0% |
| Final | 40% | | 50% | | 90% |

Grade scale: I customarily curve grades based on a student's performance on two hourly exams, a final exam, homework assignments, and class attendance (+ or -). The weights assigned to these variables will be: (I) 25% for each of the hourly exams; 40% for the final exam, and 10% for the homework; or (II) 40% for the second hourly, 50% for the final, and 10% for the homework; or (III) 90% for the final exam and 10% for the homework, whichever of the three weighting systems gives the student the highest grade. A missed exam is a zero, and puts more emphasis on the later exams.

Incompletes: I only give "I's" in very extreme circumstances, since the final exam can take the place of the other two exams.

Disabilities

I will make reasonable accommodations for students with documented disabilities. In order to receive such accommodations, students must obtain a letter of accommodation from the Center for Disability Resources and make an appointment to speak with me as soon as possible. My office hours are listed on the first page of the syllabus. The Center for Disability Resources is located in the Life Sciences Building, room 218, 312-567-5744 or disabilities@iit.edu

Copyright/Plagiarism/Academic Integrity

Rules on Plagiarism and Academic Integrity

Plagiarism and other violations of academic integrity are strictly prohibited and subject to penalty as defined by the University. The academic integrity material in the handbook is found at page 31 in the IIT student handbook. Students will be expected to conform to the rules and procedures set forth in the handbook.

The code of conduct governing writing by students at IIT requires original writing, prohibits plagiarism and provides severe sanctions for plagiarism. Original writing consists of thinking through ideas and expressing them in your own way. If the ideas are from other sources, use footnotes or other citation methods to indicate the source of the ideas. Plagiarism is the act of passing off someone else’s work or ideas as your own. The sanctions include, but are not limited to, expulsion and the imposition of a punitive grade of ‘E’.

What is Plagiarism?

Often there is some confusion as to what constitutes plagiarism. Plagiarism is the act of passing off someone else’s work as your own. To assist in providing an understanding of the types of writing that constitute plagiarism, three types of are each discussed below. Also discussed below is the problem of “string citations.” String citations are not plagiarism, but many professors will reject string citations because they are not the student’s original work.

Word for Word copying: The use of any phrase or excerpt from another source requires the use of quotation marks around the copied material, or if the material is more than a few lines, the copied material should be placed in its own indented paragraph. A citation in proper form is always required to identify the source.

Plagiarizing by Paraphrase: When a writer uses a source, substitutes words and sentences, or even changes the order but keeps the meaning of the original, a citation is required. In the example given below, the original is on the left. The paraphrase in the right box constitutes plagiarism.

| | |
|--|--|
| <p><u>Original:</u> It is not generally recognized that at the same time when women are making their way into every corner of our work-world, only one percent of the professional engineers in the nation are female. A generation ago, this statistic would have raised no eyebrows, but today, it is hard to believe.</p> | <p><u>Paraphrase:</u> Few people realize now that women are finding jobs in all fields, that a tiny percentage of the country’s engineers are female. Years ago this would have surprised no one, but now it seems incredible.</p> |
|--|--|

The writer could avoid plagiarism here by acknowledging the source and providing a proper citation.



Mosaic Plagiarism: Here the writer lifts phrases and terms from the source and embeds them in his own prose. An example follows in which the lifted phrases are underlined:

The pressure is on to get more women into engineering. The engineering schools and major corporations have opened wide their gates and are recruiting women zealously. Practically all women engineering graduates can find attractive jobs. Nevertheless, at the moment, only one percent of the professional engineers in the country are female.

Mosaic plagiarism is sometimes caused by careless note taking. However, it looks dishonest and is judged as such. The use of quotation marks around the original wording and citation avoid the problem of plagiarism. Often a better approach is to use paraphrase or to quote directly (with appropriate citations).

Plagiarism can be avoided by providing citations for the sources of any material, including *ideas, phrases, or sentences* that you have used in your paper. A number of different systems are available for providing citations. The key to all of them is that the writer must clearly identify for the reader the sources of all material (including ideas) that have come from somewhere else.

String Quotation Problem: Sometimes a student will write a paper consisting of a string of quotations. It is usually much better for a student to provide his or her own analysis and write the paper in his or her own words. Many professors will reject a paper consisting primarily of material quoted from other sources because they do not view such a paper as the student's own work. You should understand your professor's view with respect to string quotations prior to writing your paper.



Academic/Class Calendar & Assignments

| <u>Meeting #</u> | <u>Date</u> | <u>Topic</u> | <u>Read</u> | <u>Do Problems</u> |
|------------------|--------------------|---|---|---|
| 1 | Aug. 22 (M) | Introduction | Chapter 17 | None |
| 2 | Aug. 24 (W) | Making Economic Decisions | Chapter 1 | 1: 2, 3, 15, 28, 51, 57, 65. |
| 3 | Aug. 29 (M) | Costs and Cost Estimating | Chapter 2 | 2: 5, 9, 12, 16, 20, 36, 52. |
| 4 | Aug. 31 (W) | Interest and Equivalence | Chapter 3 | 3: 4, 5, 6, 20, 27, 43, 48, 56. |
| * | Sept. 2 (F) | Last day to DROP with no notation on your transcript (and 100% tuition refund) | | |
| * | Sept. 5 (M) | Labor Day -- No Class | | |
| 5 | Sept. 7 (W) | More Interest(ing) Formulae | Chapter 4 | 4: 3, 4, 10, 15, 26, 29, 35, 37. |
| 6 | Sept. 12 (M) | More Interest(ing) Formulae | Chapter 4 | 4: 41, 46, 55, 58, 72, 79. |
| 7 | Sept. 14 (W) | Even More . . . | Chapter 4 | 4: 87, 88, 93, 99, 107, 111, 117. |
| 8 | Sept. 19 (M) | Present Worth Analysis | Chapter 5 | 5: 4, 8, 12, 15, 28, 29, 45, 53, 72. |
| 9 | Sept. 21 (W) | Annual Cash Flow Analysis | Chapter 6 | 6: 7, 17, 22, 30, 33. |
| | | Turn-In Take Home Problems | <small>(Keep a copy for yourself)</small> | |
| 10 | Sep. 26 (M) | Annual Cash Flow Analysis | Chapter 6 | 6: 38, 46, 54, 66. |
| 11 | Sep. 28 (W) | Catch-up, Review | Chapters 1 - 6 | Previous work. |
| 12 | Oct. 3 (M) | First Hourly Examination | Chapters: 1 - 6. | |
| 13 | Oct. 5 (W) | Rate of Return Analysis | Chapter 7, 7A | 7: 4, 7, 13, 36, 39, 49, 70; 7A: 6, 7, 13. |
| * | Oct. 10 (M) | Fall Holiday -- No Class | | |
| 14 | Oct. 12 (W) | Incremental Analysis | Chapter 8 | 8: 3, 12, 23, 28, 37, 39. |
| 15 | Oct. 17 (M) | Other Analysis Techniques | Chapter 9 | 9: 21, 26, 47, 49, 60, 64, 74. |
| 16 | Oct. 19 (W) | Depreciation | Chapter 11 | 11: 8, 12. |
| 17 | Oct. 24 (M) | Depreciation | Chapter 11 | 11: 25, 30, 37, 57. |
| 18 | Oct. 26 (W) | Income Taxes | Chapter 12 | 12: 8, 11, 12, 14. |
| 19 | Oct. 31 (M) | Income Taxes | Chapter 12 | 12: 23, 28, 43. |
| | | Turn-In Take Home Problems | <small>(Keep a copy for yourself)</small> | |
| * | Oct. 31 | Last Day for Official Withdrawal | | |



Academic/Class Calendar & Assignments

| <u>Meeting #</u> | <u>Date</u> | <u>Topic</u> | <u>Read</u> | <u>Do Problems</u> |
|------------------|--------------------|--|---------------------------------|-----------------------------|
| 20 | Nov. 2 (W) | Income Taxes | Chapter 12 | 12: 58, 73. |
| 21 | Nov. 7 (M) | Second Hourly Examination | Chapters: 1 - 9, 11, 12. | |
| 22 | Nov. 9 (W) | Replacement Analysis | Chapter 13 | 13: 1, 2, 3, 4, 5, 7, 9. |
| 23 | Nov. 14 (M) | Replacement Analysis | Chapter 13 | 13: 13, 25, 26, 36, 38, 40. |
| 24 | Nov. 16 (W) | Inflation and Price Change | Chapter 14 | 14: 4, 7, 11, 16, 17. |
| 25 | Nov. 21 (M) | Inflation and Price Change | Chapter 14 | 14: 28, 36, 49, 55, 81. |
| * | Nov. 23 (W) | Thanksgiving Holiday -- No Class | | |
| 26 | Nov. 28 (M) | Selection of an MARR | Chapter 15 | 15: 1, 3, 4, 16, 24. |
| 27 | Nov. 30 (W) | Catch up/Review | Prior Work | |
| 28 | Dec. 5 - 10 | Final Examination | All Prior Work | On the exam. |
| | | Consult the IIT Final Exam Schedule for the date and time. | | |