

# Public and Private Investment Analysis

EC 314

Winter 2016

James Woods

## 1 Introduction

This course will examine the tools required to analyze expenditures that yield benefits over time – investments. The use of accounting documents and a focus on the time value of money will allow students to analyze choices in a variety of security, loan, and equipment investment decisions. The main objectives are to prepare engineers for their PE and FE exams and to provide engineers, economists and others with a shared language and understanding of basic finance topics.

This is a online course and it is expected that you have access to a computer with sufficient software and hardware to use the the hangout feature. Please drop this course if you don't have access to a computer with a webcam, microphone and a reasonably fast internet connection.

*This class has an in-person final exam at at 8am on Friday March 18th. The final exam is required. If you are taking the final at the PSU testing center you must schedule your exam to start at that time. You must notify me via email by Febuary 8th or it will be assumed that you are taking the exam in the main exam room.*

## 2 Prerequisites

There are no prerequisites for this course. However, a reasonable math background, MTH 95, is a practical requirement.

## 3 Contact Information

If each of you sent me an email, text, or message, once a week, I would be unable to respond to all your questions. Rather than emailing questions, I encourage you to post your questions on Piazza (<http://piazza.com/pdx/winter2016/ec314/home>). If you have any problems or feedback for the developers, email [team@piazza.com](mailto:team@piazza.com). Please get signed up as soon as possible.

There is a folder for each of the class modules. If you want to discuss the class material, need a clarification or have a concern about a quiz question, look to see if someone has asked the same question and if it has been answered. If you have a question about course mechanics, interpretation of the syllabus, or where something is located, there is a folder for that called “Logistics”. I will check piazza on a regular basis during regular business hours, and answer questions. I expect you and your peers to help to each other; I will indicate the good answers and make clarifications.

If you send me an email with a question that should be asked in a piazza, I will ask you to post it there rather than answer in email.

If your question is not appropriate for piazza, the best ways of contacting me, in decreasing order of effectiveness:

- IM/hangout: [woods@pdx.edu](mailto:woods@pdx.edu)

- Phone/text: (503) 465-4883
- Email: woodsj@pdx.edu (Answered only on M W and F)
- D2L email: Do not use. I will not respond.

You are encouraged to use the IM function of your PSU email account rather than email. This will allow me to get back to you more quickly and more conversationally. Please be aware that I will likely not reply till the next day if you IM me after 6pm or on the weekend.

My office is in CH 241-O. *I will hold office hours at Monday from Noon-1:00 through the last week of class, not including finals week.* There is no need to make an appointment for these hours – just come. D2L has a link that allows you to attend office hours remotely via hangout.

If you cant attend regular office hours, please check my calendar <https://woods.j.youcanbook.me/>. I will make a limited number of 15 minute slots available each week. If you make an appointment and fail to show up without first canceling, I will penalize you one pre quiz grade.

The TAS assigned to the class Maggie Lahet and Emma Willingham.

Maggies's contact information is:

- Office Hours: M 9am-Noon, CH 230
- Email/gtalk: mlahet@pdx.edu

Emma can be found at:

- Office Hours: Tu Th 10am-11:30, CH 230
- Email/gtalk: em5@pdx.edu

## 4 Textbooks and Other Sources

I have assigned Chan S. Park “Contemporary Engineering Economics 4ed” as a convenience to students that have their textbooks paid for by a third party.

I am pretty comfortable with any engineering economics textbook you choose, but it is your responsibility to figure out the relevant readings from the descriptions of the subject matter. The table of contents for the 4th edition (<http://web.pdx.edu/~woods.j/Teaching/table%20of%20contents.pdf>) is posted to help you make the correspondences. Many students have found the textbook unnecessary given the online resources.

“Schaum’s Outline of Engineering Economics” by Sepulveda, Souder and Gottfried is a useful second reference if you are having trouble with time value of money.

### 4.1 Online Resources

We will make significant use of online resources and technology. The three main tools are:

- D2L
- Course Wiki
- Piazza

D2L is our main platform for homework, i.e., online quizzes. Should you have technical problems with D2L or your computer please resolve them yourself with the general campus help desk or D2L help (<http://www.pdx.edu/oit/d2l>). You will also find a tutorial on how to use D2L on your D2L landing page. *You are responsible for learning how to use D2L.*

The course D2L landing page will have several important links:

- EC314 Wiki, where most of the supplementary material, videos and podcasts reside.

- Schedule an Appointment, where you can arrange times to meet other than office hours for help.
- A hangout link so you can attend office hours via webcam.
- Calendar of Topics and Deadlines, for deadlines and due dates.
- Table of Contents for 4th Edition Book

Pay particular attention to the course content tab in the upper left. This is where most of the online work starts. Each module will be structured with one or more of the following:

- Preparation: Pages out of the book and wiki you should read. *Wiki links are required.* Former students have suggested that these should read and watched before attempting the quizzes. Don't start the quizzes and then use the book and wiki as a reference.
- Practice Assignment: This is an online assignment that you may take as many times as you wish and does not count toward your grade. Each of these questions will have a wiki page associated with them.
- 'Pre' assignments: These count towards your grade. Your score is equal to the maximum of up to two attempts. Note that the second time you take the quiz that the questions will be similar but not identical. You must get at least one question right to take the quiz a second time.
- 'Post' assignment: This assignment counts towards your grade and is equal to two 'Pre' assignments. You will only be allowed to take these quizzes once. Please note that Post quizzes may contain questions from previous modules and will have open response questions that will be hand graded after the due date.

The pre and post quizzes are timed. You have 120 minutes to complete each quiz but the usual time to complete a quiz is approximately 45 minutes. Please do not start them and then close them without submitting answers; you will receive a zero on those quizzes.

The calendar tool will show quiz deadlines. These are hard deadlines. Having a disruption in D2L or internet connectivity in the hour or two before the deadline does not change the deadline, it means you should plan on finishing the quizzes in advance of the deadline.

#### 4.1.1 Piazza

Piazza will be used for news and other announcements and has the advantage of being available independently of D2L and the PSU login mechanism.

If you have questions related to course administration, post them in the "logistics" folder by composing a message with a brief version of your question in the subject line. This way we can form a knowledge base that everyone can use. If you email me a question like this, I will just ask you to post the question in this folder. Save yourself a step and start with a post.

Many of the D2L quiz questions don't have very informative keys. This is partially because many of the questions have several mathematically correct answers or ask for examples, which are by their nature, unique for each student. *After the due date, feel free to post the full question in piazza. I and other students will work out an answer key.*

#### 4.1.2 EC314 Wiki

The second most important resource is the wiki. Most of the supplementary reading material, videos, screencasts, and podcasts are collected here. You should visit the "Course Outline" link on the left <http://ec314-pdx-edu.wikidot.com/outline> to see what we will be doing.

A link to the wiki may be found on the D2L landing page. You must create both a wikidot account and ask for access to the course wiki. Create the account first, log in, and ask for access by filling out the request form. I log in once a day and allow everyone access.

An account is required so that it is easy for you to make corrections to the wiki. If you see something that needs fixing – fix it. If it is wrong, we can roll it back. Don't be shy about making edits. There are "how to" pages and sandbox to help you out.

This resource is outside of PSU and the help desk will not provide assistance. You and I are both customers. I have no special status.

## 4.2 Netiquette

Since we will be having some online interaction, we should be clear about what we should and should not do.

In class, I can see what is going on at all times. In the online environment, I can't see everything and I can't react as quickly to what I do see. Students are expected to be particularly trustworthy both in terms of their own conduct, and in reporting inappropriate conduct to me.

I will not tolerate profanity, obscenity, or remarks intended to discount or dismiss either a person or his or her point of view. If your inappropriate message is in the public forum, I will warn you once in that public space. If you continue with inappropriate conduct in the public spaces, your access to them will be denied for the rest of the term. If your inappropriate conduct is in private, a student code of conduct violation complaint may be filed.

## 5 Assessments and Grade Policy

Your grade in the class will be determined by your performance on the online assignments in D2L (80%) and the in-person final exam (20%). Grades will be based on your class rank.

Only about 30% of students enrolled at the start of term complete the online version of this course. The typically grade distribution is often worse than the my in-person and hybrid courses where *about* 30% of students earn A's and another 30% earn B's.

### 5.1 On-line Quizzes

There will be two types of graded quizzes, 'Pre' and 'Post', on D2L. A 'Pre' quiz with 20 points is worth the same as a 'Pre' quiz of 3 points as far as your grade goes. You will be given the maximum score of the two nearly identical attempts. Points are only comparable within a quiz, not between quizzes. 'Post' quizzes are worth twice as much as 'Pre' quizzes.

The optimal study pattern is to:

- Read the required material.
- Try some of the practice quiz questions.
- Wait a day.
- Review the material again and do more of the practice questions.
- If confident, take the 'Pre' quiz, reviewing concepts between each of the two attempts. Ideally you should put a day for review of the questions between the two attempts.
- Wait a day.
- Review and take the 'Post' quiz.

Your quiz score is determined by the sum of the percent correct of the pre quizzes plus twice the sum of the percent correct on each of the post quizzes. I drop either the two lowest pre quiz scores or the lowest post quiz, whichever results in the highest score. The dropped scores are intended to be a buffer for technical failures, illness, bad days and other bad luck. I will take care of this adjustment at the end of term.

## 5.2 Final Exam

The function of the required final exam is to provide me with added assurance that online work was completed by the person enrolled in the class. Because of this, picture ID will be required to enter the examination room. *Not taking the final exam, or scoring in the 15th percentile or lower, will result in a failing grade.*

It has been my experience that students I have suspected of not doing their own work online do so poorly on the final exam that they fail the class.

The final exam will consist of written, not multiple choice questions, covering the same material as the online quizzes and will be more problem solving than definitional. I will provide you with a sheet of accounting ratios, tables for depreciation, and formulas for some time value of money calculations. These materials will be posted on D2L in the course materials section. In the final exam, you will be allowed a calculator and writing implement. Phones, smart watches, books, computers are not allowed.

## 6 Other Rules

- Begging for grades will result in an immediate lowering of your course grade by a full letter grade.
- When completing online quizzes you may use your book, wiki, calculator, spreadsheets, notes, or other resources as long as it is not another student or person. It is intended that you do these things by yourself.
- Go to office hours at the first sign of trouble – not as a last resort.
- In this classroom, we support and value diversity. To do so requires that we:
  - Respect the dignity and essential worth of all individuals
  - Promote a culture of respect toward all individuals
  - Respect the privacy, property, and freedom of others
  - Reject bigotry, discrimination, violence, or intimidation of any kind
  - Practice personal and academic integrity and expect it from others
  - Promote the diversity of opinions, ideas, and backgrounds, which is the lifeblood of a university

For additional information, please see the Office of Affirmative Action & Equal Opportunity at <http://www.pdx.edu/diversity/affirmative-action>.

- Accommodations are collaborative efforts between students, faculty, and the Disability Resource Center. If you have a documented disability and require accommodation, you must arrange to meet with the course instructor prior to or within the first week of the term. The documentation of your disability must come in writing from the Disability Resource Center (Faculty letter). Students who believe they are eligible for accommodations but who have not yet obtained approval through the DRC should contact the DRC immediately. Reasonable and appropriate accommodations will be provided for students with documented disabilities. For more information on the Disability Resource Center, please see <http://www.drc.pdx.edu/>.
- Academic honesty is expected and required of students enrolled in this course. Suspected academic dishonesty in this course will be handled according to the procedures set out in the Student Code of Conduct.
- I am sympathetic to family emergencies but you must inform me as soon as possible. If the notice is verbal, please email me with your understanding of our agreement. All agreements have to be in writing.

## 7 Expected Outline

A link to a full, detailed, and continuously updated schedule will be posted on D2L and the course wiki.

## 8 Changes From Previous Terms

The format and rules for the class change from term to term and are often the result of a discussion about how to improve the course conducted at the end of the term. The general changes from the Winter 2015 are:

- Practice quizzes now have a link to a wiki page on that specific question.
- The wiki now has a voting system to flag both good and bad pages.
- The comprehensive written final exam is now composed of questions not in the POST quizzes .
- Pre quizzes now show which questions were correct and not just the total score.
- Mandatory 24hr spacing of Pre quiz attempts has been removed.
- Pre quizzes make use of randomized question sets and not just parameters and question order.
- Post quizzes now have more open response questions that are a step closer to what will be on the final exam.