SIE 265- Engineering Economics
Spring 2026, University of Arizona

Instructor:	Dr. Mike Kwinn Office: ENGR 107 Email: kwinnm@arizona.edu Office Hours: by appt
Teaching Assistants:	Mst Sadia Tamanna (Tucson), Office hours (In Person by appt), M and W 11-12. Zoom: https://arizona.zoom.us/j/5970478176
Class meetings:	Tuesday and Thursday, 11:00–12:15am, AME 212S
Catalog description:	Methods and modern techniques of engineering management analysis for financial decision making. Development of income, cash flow, and balance sheet statements. Topics include Time value of money, valuation techniques, replacement analysis, and project acceptance criteria.
Prerequisite(s):	MATH 124 or 125
Textbook (required):	Sullivan, W., E. Wicks, and J. Wilck (2024). Engineering Economy, (18th edition), Pearson/Prentice-Hall. Available through Pay One Price and Inclusive Access Materials on D2L This textbook is required for the class, and it is highly recommended to read assigned text material as an aid to solving homework problems, and before coming to class.
Software packages:	Pearson MyLab Engineering (online access). You cannot opt out as MyLab Engineering online access is REQUIRED for exams, homework assignments, and in-class assignments. Excel
Outcome Related Course Learning Objectives:	This course introduces students to concepts of economic analysis, profitability, and cost estimation. Specific outcomes include: • Understanding concepts of the time value of money. • Understanding of Pro Forma Income Statements, Cash Flow Statements and Balance Sheets. • Ability to create financial statements for evaluating Engineering Projects. • Ability to determine the economic viability of Engineering Projects.

D2L Website:

You will access this site by going to http://d2l.arizona.edu and logging in with your UA Net ID. If you need assistance with D2L you should contact D2L Help (http://help.d2l.arizona.edu); you may also try the 24/7 IT Support center on campus (http://the247.arizona.edu), which is available 24 hours a day, 7 days a week. When you log on to D2L, this course will be listed on the welcome page under "My Courses".

Announcements, class notes, PowerPoint files, spreadsheets used in class, homework assignments and solutions, and links to news items of interest will be posted to this website. You must be registered for the class to be permitted entry to the site.

Grading:

The final grades will be computed according to the table below. Grades are earned and they are not given. *Final grades are based on your performance throughout the semester and not on the generosity of the professor.* The beginning of the semester and throughout the semester is the time to be concerned about your grades

A: 100-90%; **B:** 80-90%; **C:** 70-80%; **D:** 60-70%; **E:** below 60%

Class Attendance and Participation	10%
Homework assignments	15%
Exam 1	20%
Exam 2	20%
Exam 3	20%
Course Project	15%
Total	**100%**

Homework Assignments

a. All assignments will be taken from Pearson MyLab Engineering online access. This is an online homework and tutorial system which accompanies your text. It uses a combination of immediate feedback, study tools, and videos to help you learn. To learn how to register and gain access to the eText and MyLab Engineering through D2L, follow the instructions in the document "Pay One Price and Inclusive Access to eText and Courseware" available in Course Syllabus and Policies tab under the Content tab of the D2L course site.

b. Reading assignments are listed in the lesson plan and should be completed prior to class.

c. There will be 12 homework assignments on-line through MyLab with only 10 assignments counting. The two lowest scores will be dropped. Homework will be due according to the syllabus but will generally be due on Friday at 11:59.

d. You are allowed late submissions till 11:59 PM on Sunday, with a 10% late submission

penalty per day (i.e., 10% by 11:59 PM on Saturday and 20% by 11:59 PM on Sunday) applied ONLY to questions you solve after the original deadline.

e. Academic integrity: Students are expected to uphold the University of Arizona academic integrity policy.

f. Quality: Although the homework answers are submitted through MyLab Engineering, it is good practice to work through the homework in a spiral notebook. That way, you can review your work with the professor or a TA if you are having problems understanding the assignment. Always write legibly and write out each step of the process, indicating your answers clearly at the end.

Exams

a. There will be three midterm exams during the semester. Specific instructions for the conduct of the exams will be provided prior to the exams themselves.

b. Calculators may not be programmed unfairly or connect wirelessly to internet or to each other. All cellphones must be OFF and put away during exams. This applies to class time, too.

c. Anyone caught acting against UA Code of Academic Integrity, will receive a non-droppable grade of zero on an exam.

d. If you are stuck on a problem and write an explanation of how you might approach it and what concepts apply, you may get partial credit. Partial credit is better than no credit!

Course Project:

In the last few weeks of the semester, there will be a multi-assignment project that the instructor will share specific instructions about during class time. This will be assigned individually, and all students will be working on the same problem assigned by the instructor.

Attendance policy:

Attendance for all lessons and exams is mandatory. To miss a scheduled exam, you must have a Deans Excuse and notify the instructor ahead of time. You will be allowed to miss three lessons without an excuse without losing attendance points. There will be material that is not in the text that will be presented in class. In class examples are performed, demonstrations will be done with the computer, and discussions will be conducted on the material. All material from the class is fair game on the exams.

- All students must attend the **full 75-minute lecture** entering the classroom no later than 11:00 AM to minimize any class disruption. The instructor reserves the right to not allow any student to enter the classroom after 11:00 AM.
- All holidays of special events observed by organized religions will be honored for those

students who have affiliation with that religion. Please work with the instructor to ensure awareness of the holiday. It is not the instructor's responsibility to track all the holidays.
- Absences pre-approved by the UA Dean of Students (designee) will be honored.

Use of Generative AI - Red

In this course any and all uses of generative artificial intelligence (AI)/large language model tools such as ChatGPT, Dall-e, Google Bard, Microsoft Bing, etc. will be considered a violation of the Code of Academic Integrity, specifically the prohibition against submitting work that is not your own. This applies to all assessments in the course, including case studies, written assignments, discussions, quizzes, exams, and problem sets. The following actions are prohibited:

● entering all or any part of an assignment statement or test questions as part of a prompt to a large language model AI tool;

● incorporating any part of an AI-written response in an assignment;

● using AI to summarize or contextualize reading assignments or source materials; and

● submitting your own work for this class to a large language model AI tool for iteration or improvement.

Standard Policies for Students and Instructors:

All classroom policies and standard policies for courses at the University of Arizona are located at https://catalog.arizona.edu/syllabus-policies. Students are encouraged to review the policies located at this website.

Revisions:

Modifications may occur in this syllabus. The instructor will share any changes as soon as practical in class and through class announcements on D2L.

Student feedback:

Students may be asked to provide written feedback on the course and its contents. Students are encouraged to provide constructive and respectful feedback to the instructor throughout the course.

Tuesday	Thursday
	15 Jan – Lesson 1
	Chapter 1
	Course Overview and Team Introduction
20 Jan – Lesson 2	**22 Jan – Lesson 3**
Chapter 1	**Chapter 2**
Read 1.1-1.6 Introduction to Engineering Economy	Read 2.1 – 2.6 Cost Concepts and Design Economics **Homework 1 due**
27 Jan – Lesson 4	**29 Jan – Lesson 5**
Chapter 3	**Chapter 4**
Read 3.1 – 3.6 Cost Estimation Techniques	Read 4.1 – 4.6 History of money and interest, P/F Introduction; and Cash-Flow Diagrams **Homework 2 due**
3 Feb – Lesson 6	**5 Feb – Lesson 7**
Chapter 4	
Read 4.7 – 4.8 P/A & F/A Relationship; Summary of Discrete Compounding	Read 4.9 - 4.10 Deferred Annuities (Uniform Series) and Equivalence Involving Multiple Interest Formulas **Homework 3 due**
10 Feb – Lesson 8	**12 Feb – Lesson 9**
Chapter 4	
Read 4.11 – 4.13 Gradient of Cash Flows and Geometric Sequences of Cash Flows	Read 4.14 – 4.17 Nominal and Effective Interest Rates **Homework 4 due**
17 Feb – Lesson 10	**19 Feb – Lesson 11**
Chapter 5	
Read 5.1 – 5.3 MARR, Present Worth Method and Future Worth Method	Read 5.4 – 5.6 Annual Worth Method and Internal Rates of Return (IRR) **Homework 5 due**
24 Feb – Lesson 12	**26 Feb – Lesson 13**
Chapter 5	
Read 5.7 – 5.8 IRR for Investment Financing and The Payback Period Method	**Exam 1**
3 Mar – Lesson 14	**5 Mar – Lesson 15**
Chapter 6	
Read 6.1 – 6.4 Study Period and Equal Useful Loves Alternatives – Equivalent Worth Methods	Read 6.4 – 6.5 Unequal Useful Lives Alternatives **Homework 6 due**
Spring Break	

17 Mar – Lesson 16	19 Mar – Lesson 17
Chapter 6	**Chapter 7**
Read 6.6 Personal Finances	Read 7.1 – 7.3 Depreciation Concepts and Terminology and Depreciation Methods **Homework 7 due**
24 Mar – Lesson 18	**26 Mar – Lesson 19**
Chapter 7	
Read 7.3 – 7.5 Classical Depreciations Methods and Modified Accelerated Cost Recovery System	Read 7.6-7.10 Income Taxes and Corporate Income Taxes **Homework 8 due**
31 Mar – Lesson 20	**2 Apr – Lesson 21**
Chapter 7	
Read 7.10 After-Tax Economic Analysis Examples	**Exam 2** **Homework 9 due**
7 Apr – Lesson 22	**9 Apr – Lesson 23**
Chapter 8	
Read 8.1 – 8.5 Price Changes and Exchange Rate Concepts and Fixed and Responsive Annuities	Read 8.4 – 8.5 Differential Price Changes **Homework 10 due**
14 Apr – Lesson 24	**16 Apr – Lesson 25**
Chapter 9	**Chapter 11**
Read 9.1 – 9.6 Replacement Analysis	Read 11.1 – 11.3 Breakeven and Sensitivity Analysis **Homework 11 due**
21 Apr – Lesson 26	**23 Apr – Lesson 27**
Intro to Project & Project 1 Balance Sheet & Project 2	Inventory Rules & Project 3 Loans and Debt Amortization & Project 4-5 **Homework 12 due**
28 Apr – Lesson 28	**30 Apr – Lesson 29**
Accrual Accounting & Project 6 Buying, Depreciating, and Selling Assets & Project 7	**Exam 3**
5 May – Lesson 30	
Valuation & Project 8 Outsourcing & Project 9	