

EGEN 325-01 ENGINEERING ECONOMICS

Montana State University—Bozeman

Fall 2012

3 Semester Credits

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Office Hours: 2:30-4:00 PM; M&W

Class Meeting Times: 4:10-5:25 PM; M&W

Location: Roberts 101

Course Prerequisite: M165 or M171

Course Materials:

Required Textbook: Newnan, D.G., Lavelle, J.P., and Eschenbach, T.G.,
“Engineering Economic Analysis”, 11th ed., Oxford University Press, Inc. 2012

Recommended Auxillary Study Aid: Newnan, D.G., Lavelle, J.P., and Eschenbach, T.G.,
“Study Guide for Engineering Economic Analysis”, 11th ed., Oxford University Press, Inc. 2012

Recommended Website: www.oup.com/us/newnan

Desire2Learn: <https://ecat.montana.edu>

Course Objective:

- Provide the means to formulate and apply engineering economic equations taking into consideration the time value of money.
- Develop the capability to structure and evaluate capital decision making alternatives.
- Provide the ability to understand and evaluate the impact on economic decisions of taxes, depreciation, and related factors.
- Develop an understanding of how to apply engineering economic analysis to your own personal finances.

Course Overview: The course is structured to follow the objectives listed above. The initial portion of the course will be addressing the factors and their relationships that go into economic modeling and decision making. The course will progress to the mathematical treatment of the time value of money and the means of incorporating this into economic decisions. Finally, the mathematical treatment of factors such as depreciation, and taxes will be addressed along with their contributions to the decision making process.

Desire2Learn:

Course materials will be handed out via the D2L system. Students can also check their current grading for the course in D2L. Quizzes will be taken using D2L. Homework will be handed in electronically via D2L. Therefore the student needs to have some way to scan their homework problems for submittal to the dropbox.

Financial Calculator and/or MS Excel:

The use of financial calculators for homework, quizzes and exams is acceptable. Also the use of Excel for homework will be encouraged. However, you will need to ensure that you label your material adequately so that the instructor can follow the problem solving logic.

Grading:

Grades will be based on the following weighting:

Exams	50% (15%, 15%, 20%)
Homework	20%
Term Project (s)	20%
Quizzes	10%

- There will be two exams given during the semester and a final exam. The first two exams will address only the materials covered since the prior exam or beginning of class. The final exam will have a component of review for the entire semester. Exam make-ups, if any, will be considered on a case by case basis.
- Homework is due on Wednesday of each week at class unless otherwise stated. Late homework will have one letter grade deducted per day of being late. After 3 days the best grade achievable will be a D. After 2 weeks the homework assignment will not be accepted and get a grade of 0 without special approval from the instructor. The lowest homework grade of the semester will be dropped.
- Students will be required to complete two team projects that will employ many of the techniques discussed in the course and provide a written project report. Projects will be completed by a team of 3 students. The students will self select their team in D2L. Each project will have a different set of team members. The first project will be on NPV and IRR analysis. The second project will be regarding personal finances. More detailed information will be given via D2L during the semester.
- There will be 5 quizzes given throughout the semester. The quizzes will be given via D2L. There will be a specified time window to start the quiz (usually Wed 5pm to Friday 11pm). There will be a time limit on taking the quiz (1 hour). There will be no make-ups given for the quizzes.
- If grading of an exam, homework, quiz or project is appealed by a student, the instructor reserves the right to re-grade the entire document.

Collaboration:

Unless specifically stated otherwise, students may not collaborate on any graded material. Any exceptions to this policy will be stated explicitly for individual assignments. If you have any questions about the limits of collaboration, you are expected to ask for clarification.

Policies:

- If you have a documented disability for which you are or may be requesting special accommodation, please contact Disabled Student Services as soon as possible and discuss your specific situation with the instructor before the first exam.
- Paraphrasing or quoting another's work without citing the source is a form of academic misconduct. If you have any questions about using and citing sources, you are expected to ask for clarification.
- Each student is expected to make full effort to attend every class. If you miss class, you are still responsible to get assignments in on time and for knowing the material covered in class that day.
- Chronic tardiness is unacceptable and may result in your being asked to leave class. The same holds for disruptive or disrespectful behavior.

EGEN 325
PLANNED SCHEDULE

<u>Week of</u>	<u>Day</u>	<u>Topic</u>	<u>Assignment</u>	<u>Homework</u>
27 Aug	M W	Introduction, Syllabus, Making Econ Decisions, Acctg Engineering Costs and Cost Estimates, Acctg	Chapter 1 & 17 Chapter 2 & 17	
3 Sep	M W	NO CLASS – Labor Day Holiday Interest and Equivalence Project 1 introduction Quiz 1 (chapters 1,2, & 17) given via D2L	Chapter 3	HW 1; C-1,2,17
10 Sep	M W	Interest and Equivalence Equivalence For Repeated Cash Flows Project 1 teams selection completed	Chapter 3 Chapter 4	HW 2; C-3
17 Sep	M W	Equivalence For Repeated Cash Flows Present Worth Analysis Quiz 2 (chapters 3 & 4) given via D2L	Chapter 4 Chapter 5	HW 3; C-4
24 Sep	M W	Present Worth Analysis Annual Cash Flow Analysis	Chapter 5 Chapter 6	HW 4; C-5
1 Oct	M W	Annual Cash Flow Analysis EXAM 1; Chapters 1-6	Chapter 6	HW 5; C-6
8 Oct	M W	Rate of Return Analysis Rate of Return Analysis Project 1 due (handed in via D2L dropbox) Quiz 3 (chapter 7) given via D2L	Chapter 7 Chapter 7	HW 6; C-7
15 Oct	M W	Choosing the Best Alternative Other Analysis Techniques	Chapter 8 Chapter 9	HW 7; C-8,9
22 Oct	M W	Uncertainty in Future Events Depreciation Project 2 introduction Quiz 4 (chapter 8, 9, & 10) given via D2L	Chapter 10 Chapter 11	HW 8; C-10-11
29 Oct	M W	Depreciation; Income Taxes Income Taxes Project 2 team selection completed	Chapter 11 & 12 Chapter 12	HW 9; C-12
5 Nov	M W	EXAM 2; Chapters 7-12 Personal Finances; 401K, Roth IRA,		
12 Nov	M W	NO CLASS – Veterans Day Replacement Analysis Project 2 due (handed in via D2L dropbox)	Chapter 13	HW 10; C-13
19 Nov	M W	Individual Reflection – No Class Time No CLASS – Thanksgiving Holiday		
26 Nov	M W	Inflation and Price Change Selection of a Minimum Attractive Rate of Return Quiz 5 (FE exam material) given via D2L	Chapter 14 Chapter 15	HW 11; C-14,15
3 Dec	M W	Economic Analysis in the Public Sector Final Exam Review	Chapter 16	
13 Dec	Th	Final Exam Thur. 13 Dec. 8:00-9:50am – Roberts 101		