



**SYLLABUS**

**Subject/Title: Economic Evaluation Section/Number: EBGN 504A, 10034**  
**Semester/Year: Spring 2017**

**Instructor: John M. Stermole**

**Contact Information:**

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**Office Hours:**

Monday: 1:00 – 3:00

Tuesday: 9:00 – 12:00

Wednesday: 10:00 – 12:00 and 1:00 – 3:00

Thursday: 9:00 – 12:00

Friday: By Appointment Only

**Class Meeting Days / Times:** TTH 2:00pm – 3:15pm

**Class Meeting Location:** BH 241

**Web Link:** <http://www.blackboard.mines.edu>

**Grader:** Gautham Venkatesha Reddy

**Instructional Activity:**   3   hours lecture,      hours lab,   3   semester hours **Course Designation:**      Common Core,      Distributed Science or Engineering  
  X   Major Requirement,   X   Elective      Other

**Course Description from Bulletin:**

Time value of money concepts of present, future and annual value are developed and applied to a variety of banking and investment scenarios. Development of decision criterion including rate of return, net present value, ratios, discount rates and breakeven concepts are applied to both before-tax and after-tax economic analyses of mineral, petroleum, alternative energy and non-resource investments. Related topics include; (1) proper application of criteria in both mutually exclusive and non-mutually exclusive environments for both income and service scenarios, (2) measured impact of inflation in cash flows and interest rates, (3) risk adjusting a model using expected value, (4) after-tax analysis will explore a variety of tax deductions and impact on taxes, after-tax cash flow and project economics, (5) proper applications in an after-tax environment.

## **Syllabus for Engineering Economics, EBGN 504A, Continued...**

### **Textbook and/or Other Required Materials:**

Economic Evaluation and Investment Decision Methods, 14<sup>th</sup> Ed, 2014 by Stermole and Stermole, Investment Evaluations Corporation.

(3 copies are available in the library and separately, on reserve)

### **Recommended Textbook:**

“Self-Teaching Manual” for Economic Evaluation and Investment Decision Methods, 14<sup>th</sup> Ed., 2014 by Stermole and Stermole, Investment Evaluations Corporation.

(3 copies are available in the library and separately, on reserve)

### **Student Learning Outcomes:**

At the conclusion of the class, students should be able to:

Assess the economic aspects of financial options available in both a corporate and personal settings.

Develop cash flow and criteria appropriate to measure the value of different options.

Understand problem areas in economic modeling and how to deal with it.

Convey to others the meaning of their findings.

Be prepared for material related to the professional engineering (FE) exam.

### **Brief List of Topics Covered in Class:**

Time Value of Money

Related Decision Criteria; ROR/IRR, NPV, Ratios, Payback, Discounted Payback

How to properly utilize criteria

Impact of inflation and difference in time value vs purchasing power of money

Deductions related to after-tax cash flow; depreciation, amortization, writeoff's

Proper application of criterion in an after-tax environment

When to incorporate borrowed money in modeling

### **Policy on Academic Integrity/Misconduct;**

The Colorado School of Mines affirms the principle that all individuals associated with the Mines academic community have a responsibility for establishing, maintaining and fostering an understanding and appreciation for academic integrity. In broad terms, this implies protecting the environment of mutual trust within which scholarly exchange occurs, supporting the ability of the faculty to fairly and effectively evaluate every student's academic achievements and giving credence to the university's educational mission, its scholarly objectives and the substance of the degrees it awards. The protection of academic integrity requires there be clear and consistent standards, as well as confrontation and sanctions when individuals violate those standards. The Colorado School of Mines desires an environment free of any and all forms of academic misconduct and expects students to act with integrity at all times.

## **Syllabus for Engineering Economics, EBGN 504A, Continued...**

Academic misconduct is the intentional act of fraud, in which an individual seeks to claim credit for the work and efforts of another without authorization, or uses unauthorized materials or fabricated information in any academic exercise. Student Academic Misconduct arises when a student violates the principle of academic integrity. Such behavior erodes mutual trust, distorts the fair evaluation of academic achievements, violates the ethical code of behavior upon which education and scholarship rest and undermines the credibility of the Colorado School of Mines. Because of the serious institutional and individual ramifications, student misconduct arising from violations of academic integrity is not tolerated at Mines. If a student is found to have engaged in such misconduct sanctions such as change of grade, loss of institutional privileges, or academic suspension or dismissal may be imposed. The complete policy is [online](#).

### **Grading Procedures:**

This class will use a points grading system. All possible points will be outlined on the detailed test outline posted on Blackboard. Homework will typically be valued at 10, 15 or 20 points but assignments are subject to change so all stated values in this syllabus should be considered as best guess estimates only. After material has been graded the points will be posted in Blackboard where students may view their total points. Each homework, quiz and test will have marks where the student lost points to facilitate improved understanding of a concept.

### **Course Homework/Return Policy:**

Assigned homework is due at the beginning of the appropriate class period. Graded homework and quizzes will be returned the following class period whenever possible. Exams will be returned no later than two weeks after the test date. It is the students responsibility to retrieve all homework and tests out of the class folders. All material not retrieved by the end of the semester (commencement) will be recycled.

### **Absence Policy:**

There is no makeup, bonus work or replacement exams. The only exception to this policy is an excused absence approved in writing from the Dean of Students, Department Head or Department of Athletics. If you know you will be absent on a specific date, it is your responsibility to make alternative plans. See me if you have any circumstance that could create a conflict in achieving a successful outcome in this class.

Lectures will be available on Blackboard before the actual lecture. In the event of an absence, reviewing this material should serve to keep you on pace with general course content but may not address any special announcements, or other extraordinary information.

## Syllabus for Engineering Economics, EBGN 504A, Continued...

### Exam Policy:

**Students may be required to show a valid picture ID upon completion of an exam.**

All exams will be open textbook only. No Self-Teaching Manuals will be allowed. Further, no backpacks, bags, cell phones, tablets or laptops will be allowed at your seating area. For any credit, your exam must be stapled to your work. Baseball hats and other similar headgear that might shield a students face are not allowed.

Exam #1	Textbook Chapters 1-3 & Related Lecture	2/09/17	100 Pts.
Exam #2	Textbook Chapters 4-6 & Related Lecture	3/09/17	125 Pts.
Exam #3	Textbook Chapters 7-11 & Related Lecture	4/27/17	150 Pts.
Total Exam Points			375 Pts.

### Homework Policy:

Homework is due at the beginning of class on the due date. Full student name and section "EBGN 321C" will be required for credit. No homework will be accepted late without a written excuse from the Dean of Students, Department Head or the Athletics Department. It is your responsibility to make certain homework is submitted in a timely fashion. All due dates are posted with the lecture outline for each exam posted on Blackboard. No makeup assignments for missing homework of any kind will be allowed except when properly excused and subject to makeup by the Dean of Students.

### Approximate Distribution of Points:

Homework / Quizzes (Approximate)	210 Pts.
Initial Investment Game Report	20 Pts.
Intermediate Investment Game Report	30 Pts.
Final Investment Game Report	100 Pts.
Project	100 Pts.
Exams (1-3)	375 Pts.
Approximate Total Points	835 Pts.

Participation in all phases is necessary to secure an "A" in the course. Points alone will determine your final grade, which historically is based on a straight curve.

### Disability Support

The Colorado School of Mines is committed to ensuring the full participation of all students in its programs, including students with disabilities. If you are registered with Disability Support Services (DSS) and I have received your letter of accommodations, please contact me at your earliest convenience so we can discuss your needs in this course. For questions or other inquiries regarding disabilities, I encourage you to visit [disabilities.mines.edu](http://disabilities.mines.edu) for more information.

## Syllabus for Engineering Economics, EBGN 504A, Continued...

More information on disability support can be found here:

[http://casa.mines.edu/UserFiles/Image/studentLife/CASA/Disability\\_Support\\_Services/Disability%20Support%20Syllabus%20Statement.pdf](http://casa.mines.edu/UserFiles/Image/studentLife/CASA/Disability_Support_Services/Disability%20Support%20Syllabus%20Statement.pdf) or please visit:

disabilities.mines.edu or contact Katie Ludwin -- kludwin@mines.edu; x3297.

**Blackboard (BB):** <http://blackboard.mines.edu>

All lecture notes, detailed course outlines and related materials such as office hours and this syllabus will be on Blackboard. In addition to the assignments, all homework, quiz and exam solutions will be posed on Blackboard. Posting of solutions will occur immediately after the Section C class period on Tuesday or Thursday afternoons (approximately 3:30). See individual exam outlines for details on reading and homework assignments and due dates.

### General Course Outline:

Jan/Feb	Text Chapters 1, 2 & 3; Time Value of Money and Decision Criteria
Feb/Mar	Text Chapters 4, 5 & 6; Application of Criteria, Inflation, Risk
Mar/Apr	Text Chapters 7, 8, 9, 10 & 11; After-Tax Economics, Project

Investment game will begin in February and conclude in late April.