CALIFORNIA STATE UNIVERSITY
FULLERTON™

EGCP 401: Engineering Economics and Professionalism

Spring 2021

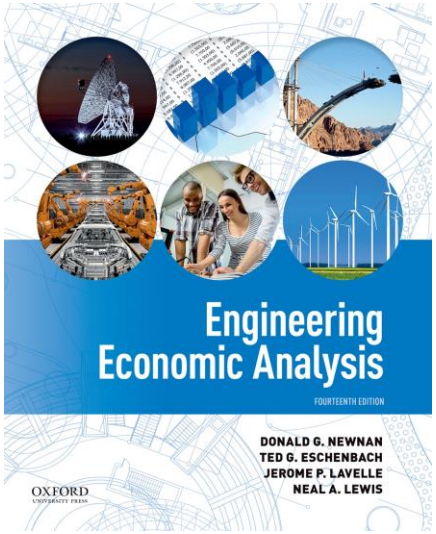
Lecture 1: Syllabus and Introduction

Rakesh Mahto, Ph.D.
***Office**: E 314, California State University, Fullerton*
***Office Hour**: Monday and Wednesday 2:00 - 4:00 pm*
Or by appointment
***Zoom Meeting ID**: 972 5657 5450*
***Email**: ramahto@fullerton.edu*
***Phone No**: 657-278-7274*

Textbook and Background

- Main reference material is your notes in the class and the handouts
- Textbook:
  - Donald G. Newnan, Ted G. Eschenbach, and Jerome P. Lavelle, “Engineering Economic Analysis by ”, Oxford University Press, (January 20, 2017); ISBN: 0190296909
  - Lecture Notes: combination of slides, homework and annoucments will be posted on Titanium.

Textbook and Learning Goal

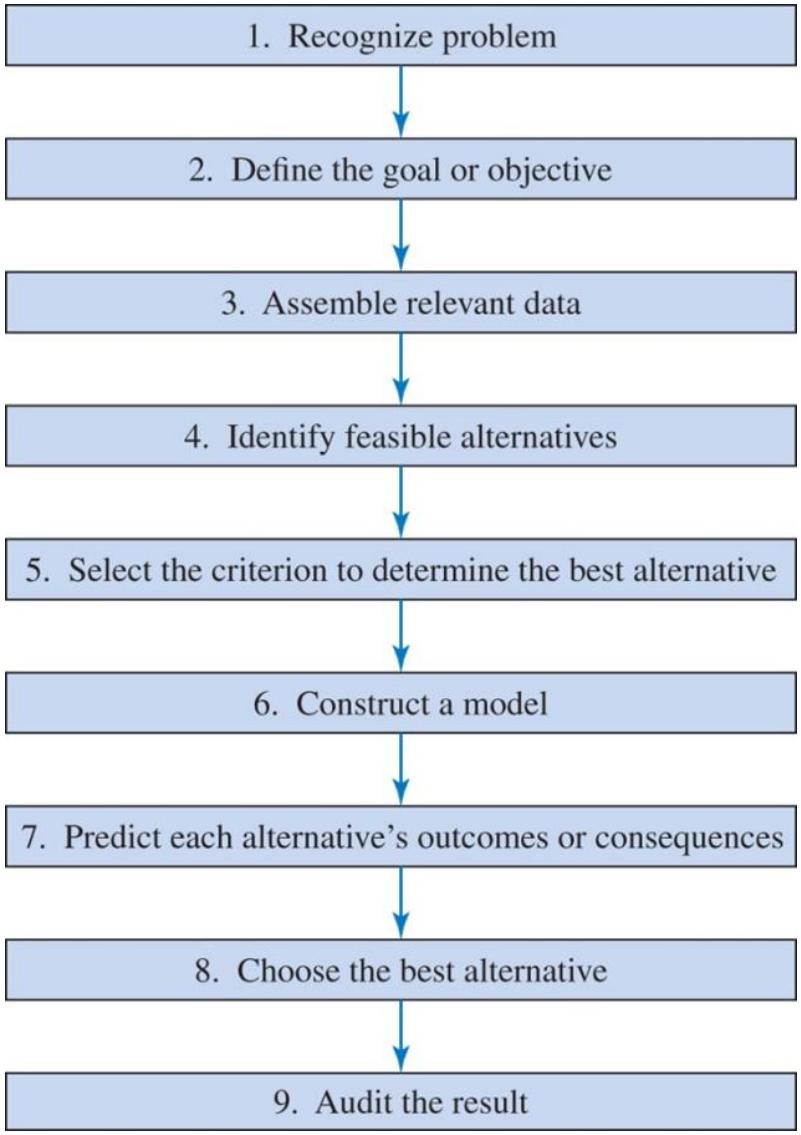


- Making Economics Decisions
- Estimating Engineering Costs and Benefits
- Interest and Equivalence
- Present Worth Analysis
- Annual Cash Flow Analysis
- Rate of Return Analysis
- Uncertainty in Future Events
- Depreciation
- Income Taxes for Corporations
- Inflation and Price Change
- Accounting and Engineering Economy

Grading Policy

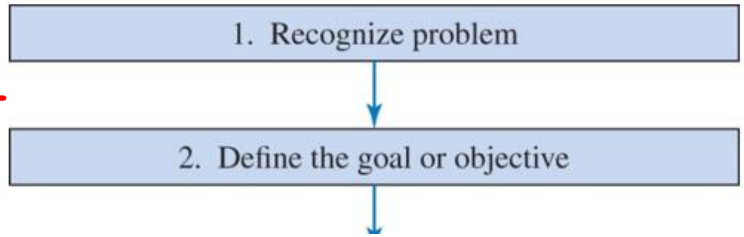
- Your grade in the course will be comprised of:
  - Homework (15%)
  - Quizzes and Class Participation (10%)
  - Mid-term (25%)
  - Final Exam (30%)
  - Project (20%)
- Final letter grade will be based on curve and class performance
- Your participation in class is very important
- Suggestions for success:
  - Participate in the class and ask questions
  - Read the lecture slides

A Decision Making Process



Problem

- Consider in the month of April you received a Stimulus Check of $1,200 from the Federal Government.
- Instead of spending it right away you want to invest it somewhere to maximize the return.



Problem Continue

- Fixed Deposit in Bank
- Investing in Bitcoins
- Invest in Government Bond
- Share market

3. Assemble relevant data

4. Identify feasible alternatives

Problem Continue

CHAPTER 1: MAKING ECONOMIC DECISIONS

5. Select the criterion to determine the best alternative

CHAPTER 2: ESTIMATING ENGINEERING COSTS AND BENEFITS

Problem Continue

CHAPTER 3: INTEREST AND EQUIVALENCE

CHAPTER 4: EQUIVALENCE FOR REPEATED CASH FLOWS

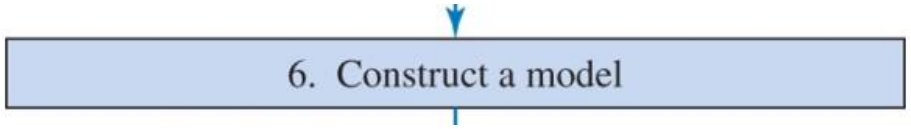
CHAPTER 6: ANNUAL CASH FLOW ANALYSIS

CHAPTER 10: UNCERTAINTY IN FUTURE EVENTS

CHAPTER 11: DEPRECIATION

CHAPTER 12: INCOME TAXES FOR CORPORATIONS

CHAPTER 14: INFLATION AND PRICE CHANGE

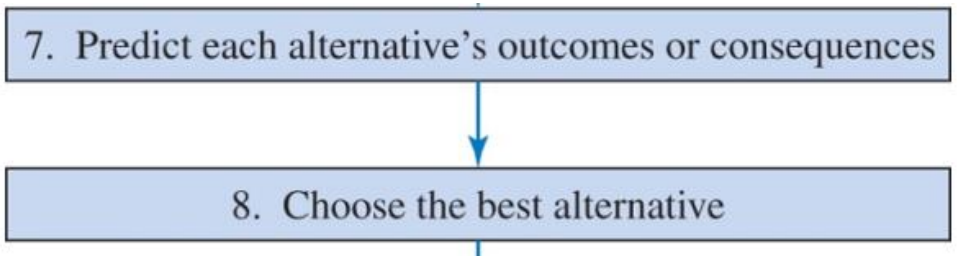


Problem Continue

CHAPTER 7: RATE OF RETURN ANALYSIS

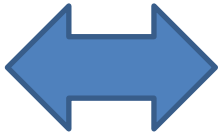
CHAPTER 8: CHOOSING THE BEST ALTERNATIVE

CHAPTER 15: SELECTION OF A MINIMUM ATTRACTIVE RATE OF RETURN



Problem Continue

CHAPTER 17: ACCOUNTING AND ENGINEERING ECONOMY



9. Audit the result