

Course: IENG 577 - Advanced Engineering Economy

Semester: Fall 2019

Credit hours: 3 credits

Instructor: Feng Yang

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Prerequisites: IENG 213 (Engineering Statistics) or equivalent basic probability course.

Reference Books:

- Corporate Finance, 3rd ed, J. Berk and P. DeMarzo, Prentice Hall, 2013
- Investment Science, 2nd ed, D. G. Luenberger, Oxford University Press, 2013

Student Learning Objectives:

- To learn basic concepts and techniques for economic decision analysis under uncertainty, constraints, and/or multiple objectives.
- To learn basic concepts and issues relevant to financial engineering and management.

Course Topics

- Cash flow equivalence (arbitrage and financial decision-making, the time value of money, interest rates)
- Basic valuation (investment decision rules, fundamentals of capital budgeting)
- Risk and return (expected utility and portfolio choice, capital markets and the pricing of risk, portfolio optimization and capital asset pricing)
- Advanced valuation

Grading Elements and Weighting:

Grade Element	Weighting
Quizzes	30%
Homework	40%
Projects	30%

General Policies:

Regrades: Regrades of tests are obtained by submitting a written explanation via the instructor's mailbox within 48 hours of when the work was returned in class. Regrades will only be discussed *after* submitting the work in this manner.

Statement on Social Justice:

West Virginia University is committed to social justice. I concur with that commitment. I expect to foster a nurturing learning environment that is based upon open communication, mutual respect, and non-discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. Any suggestions as to how to further such a positive and open environment in this class will be appreciated and given serious consideration.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, you must make appropriate arrangements through Disability Services (293-6700). They will identify the nature of the accommodation your disability requires.