



AMERICAN UNIVERSITY OF BEIRUT
FACULTY OF ENGINEERING AND ARCHITECTURE
ENGINEERING MANAGEMENT PROGRAM

INDE 603: Probability and Decision Analysis
Spring 2016-17

COURSE SYLLABUS

I. Meeting Time, Location, and Website:

Lecture: MW: 5:30 p.m.-6:45 a.m.
Location: TBA
Website: Moodle

II. Instructor:

Dr. Walid Nasr
Office: Bechtel Building – 5th floor (534)
Office Hours: T/Th 11:00 a.m.-12:00p.m.
E-Mail: wn12@aub.edu.lb

GA: TBA E-Mail: TBA

III. Description:

This course provides a coherent approach to decision making, developing rules of thought to transform complex decisions into simpler decision situations. Basic techniques of modern decision analysis are discussed and the emphasis of the course is on the development of models to represent decision situations and the use of probability and utility theory to represent uncertainties and preferences, respectively, in those models. The course will make use of spread sheet modeling where we use PrecisionTree and @Risk among others.

IV. Course Objectives:

- Understanding the tools to simplify complex decision problem such as influence diagram, decision trees, tornado charts.
- Develop probabilistic models for real decision making problems.
- Enhance the understanding of probability theory through real applications.
- Using data and probability distribution to build stochastic decision making models.
- An introduction to spread sheet Monte-Carlo simulation
- Understanding the value of information in the context of decision making.
- An introduction to utility theory.

V. Instructional Methodology:

Lecture, class discussion, assignments, quizzes

VI. Textbook:

Clemen, R. T. *Making Hard Decisions*..

VII. Performance Evaluation and Grading:

Midterm	35%
Final	45 %
Assignments/ Attendance/Cases	20 %

VIII. Other Course Policies:

Homework

Homework problems will be posted on Moodle. All students are encouraged to solve the homework problems and discuss their solutions with the instructor and their colleagues.

However, *every student must write his own homework assignments.*

Attendance Policy and Class Management

Students are personally responsible and accountable for learning the content of any class they miss. Students missing more than 20% of sessions before the last day for withdrawal may be dropped from the course without notice. No student will be admitted to class after 5 minutes from the beginning of the lecture. ***Cells phones, laptops and other gadgets are not allowed in class.***

Due Dates

Due dates will be strictly enforced.

Email

Information concerning the course may be sent by the instructor to students by email or through Moodle. Students are responsible for keeping AUB email accounts functioning properly.

IX. Academic Honesty:

Students are expected to complete all work with the highest standard of integrity in line with AUB's Student Code of Conduct and FEA's Honor Code. Plagiarism, forgery, cheating or any form of academic misconduct will not be tolerated. Any of the above may cause a student's final course grade to be lowered significantly or the student may receive a failing grade, depending on the severity of the offence. Plagiarism is the presentation of the work of another as one's own work.