

**THE UNIVERSITY OF HONG KONG
FACULTY OF BUSINESS AND ECONOMICS**

**School of Business
BUSI0036 – Quantitative Analysis for Business Decisions I**

I. Information on Instructor and Tutor

Instructor: Dr. Lee Hsiao-Hui
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Consultation times: by appointment

Tutor: Christina Ho
Email: ccyho@business.hku.hk
Consultation times: TBA (check WebCT course page)

Course Page: WebCT

Pre-requisites: Please refer to the [Description for Undergraduate Courses](#)

Textbook: Render, B., R.M. Stair and M.E. Hanna, *Quantitative Analysis for Management* (11th Edition, Prentice Hall) with *POM-QM for Windows Version 3* and *Excel QM* software package

II. Course Description and Objectives

■ Course Description:

Business decision making involves considerable complexity and uncertainty. This course introduces the basic concepts in quantitative business analysis to help you gain a clear understanding of the key elements in the decision making process. We discuss methods that are used extensively in business organizations. These methods provide you with the tools and the skills to approach, analyze, and solve problems of varying scales. Furthermore, this course aims at improving a decision-maker's overall problem solving ability by stressing approaches to 1) understand and question assumptions, 2) consider a richer set of solution alternatives, and 3) consider diverse measures of performance. The teaching methods will include lectures, skill-building exercises, qualitative class discussions, and a project with the support of several software packages in *Microsoft Excel*.

■ Course Objectives:

By introducing rigorous quantitative methods and theories, this course demonstrates ways to apply structured thinking on loosely defined business problems in reality. Upon successfully completing this course, you should be able to

1. employ basic statistical methods to decision making,
2. understand how to apply basic models and theories in business,
3. solve management problems effectively, and
4. use software tools to model decision problems.

III. Learning Outcomes

In this class, you will develop and sharpen your skills to

1. clearly identify an otherwise unstructured business problem and its components,
2. employ effective techniques for addressing the major challenges presented,
3. provide a solution to the decision process,
4. interpret and support your solution with qualitative explanations.

IV. Alignment of Program and Course Outcomes

Program Learning Outcome	Course Learning Outcome
1. Innovative thinking	Define and analyze unstructured problems
2. Fundamental theories of business and economics	Apply techniques/model for decision making
3. Effective decision making and problem solving	Use IT tools for problem solving
4. Effective communication skills	Evaluate and interpret solutions

V. Teaching and Learning Activities

Lecture: Approximately 60% of the class time will be used for lecturing. I will present the fundamental concepts and the related business examples. However, I intend the lectures to be highly interactive to motivate active learning and continuous participation. You will learn the class topics by following the presentation as well as interjecting with your questions and response/comments to the questions I pose. A portion of class time will involve demos of Excel exercise. You will build your Excel skills by following my demos.

Skill-Building Exercise: To reinforce the class topics, I will provide in-class problems during the lecture. This is a chance to check your knowledge and practice approaching decision problems. Instead of providing the instructor's solution, students may be asked to demonstrate their work and explain their approach clearly to the class. The idea of these exercises is to allow you to immediately apply the models and theories presented in lectures to relevant business problems; and the interactive classroom environment invigorates the learning process. *Students who are absent may lose in-class participation points if their names are called to demonstrate their solutions; students who are able to present their solutions correctly and clearly may receive extra in-class participation points.*

Homework and Tutorial Sessions: Homework will be assigned each week. Although the grading of homework assignments is effort-based, you should devote considerable time to solve these problems. Practicing the problem-solving skills is essential for truly acquiring them. And the tutorial sessions are valuable complements to the homework assignments, as you will learn through trial and error by actively participating in the homework discussion carried out by Ms. Christina Ho. Problems outside of homework assignments will also be used in the tutorial sessions. *Tutorial participation points will be assigned based on students' performance at these sessions.*

Project: One project will be assigned to be due at the end of the semester. You will complete them in self-selected groups of at most five people. Please form your project groups as soon as possible. If you have problems finding a group, please see Christina. Collaboration is key to learning and doing well on this project. Group members can evaluate each other's performance by providing comments on the peer evaluation form. Those who under-contribute will be penalized (up to 50% grade deduction).

VI. Assessment

Learning outcome	Teaching and learning activity	Assessment
1. Define and analyze unstructured problems	Skill-building exercises, projects	Exams, projects
2. Apply techniques/model for decision making	Homework and tutorial sessions, projects	Homework, exams, projects
3. Use IT tools for problem solving	Skill-building exercises, projects	Homework, projects
4. Evaluate and interpret solutions	Homework and tutorial sessions, projects	Exams, projects

VII. Standards for Assessment

Exams* (mid-term 25% and final exam 35%)	60%
Homework	18%
In-Class and Tutorial Participation	7%
Project	15%

	100%

Note: * Make-up exams will NOT be given

Midterm: To be announced.

VIII. Academic Conduct

An orderly learning environment is extremely important for this course. Disruptive behaviors are inconsiderate to other students as well as to the instructor, and are absolutely unacceptable. Talking during lectures, arriving to class late, and any other disruptions of mobile devices are not allowed; students who are responsible for any of these actions will be subject to academic penalty and will be asked to leave the classroom.

Any dishonesty—such as cheating, false representation, plagiarism, etc.—that comes to my attention will result in an F in the course.

Academic dishonesty includes cheating, plagiarism, unauthorized collaboration, falsifying academic records, and any act designed to avoid participating honestly in the learning process. Scholastic dishonesty also includes, but is not limited to, providing false or misleading information to receive a postponement or an extension on an exam or other assignment. The responsibilities of both students and faculty with regard to scholastic dishonesty are described in detail in the Disciplinary Committee Regulations (<http://www.hku.hk/pubunit/cal99/104f.htm>). By teaching this course, I have agreed to observe all of the faculty responsibilities described in that document. By enrolling in this class, you have agreed to observe all of the student responsibilities described in that document. If the application of that policy statement to this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification.

Tentative Course Schedule

Due dates and exam dates subject to change; please check WebCT for updated information.

Monday	Week	Topic
16/01	1	Introduction to Quantitative Analysis (Ch. 1); Basic Probability & Statistics (Ch. 2)
23/01		<i>Jan. 22-27 Break - Lunar New Year</i>
30/01	2	Basic Probability & Statistics (Ch. 2)
06/02	3	Decision Theory (Ch. 3)
13/02	4	Regression Models (Ch. 4)
20/02	5	Regression Models (Ch. 4)
27/02	6	Forecasting (Ch. 5)
05/03		<i>Reading/Field Trip Week</i>
12/03	7	Inventory Control Models (Ch. 6) Midterm: Tentative (Sat)
19/03	8	Queuing Theory (Ch. 13)
26/03	9	Simulation (Ch. 14)
02/04	10	Linear Programming (Ch. 7-8)
09/04	11	Linear Programming (Ch. 7-8) Project due on April 13 (Fri)
16/04	12	Network Models (Ch. 11)
23/04	13	Game Theory