THE UNIVERSITY OF HONG KONG
FACULTY OF BUSINESS AND ECONOMICS

IIMT3636 Decision and risk analysis I
2022-2023, Semester 1, Subclass 1D

GENERAL INFORMATION

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Consultation times: by appointment

Tutor: TBA

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Consultation times: TBA (check MOODLE course page)

Course Page: MOODLE

Pre-requisites: ECON1280 Analysis of economic data or STAT1602 Business statistics or STAT1603 Introductory statistics or STAT2601 Probability & statistics I or equivalent.

Textbook: *Quantitative Analysis for Management*, 13th Edition, Global Edition by B.E. Render, M.E. Hanna, and R.M. Stair. Prentice Hall, 2017.

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.

FACULTY LEARNING GOALS (FLGs)
FLG 1: Acquisition and internalization of knowledge of the programme discipline
FLG 2: Application and integration of knowledge
FLG 3: Inculcating professionalism and leadership
FLG 4: Developing global outlook
FLG 5: Mastering communication skills
FLG 6: Cultivating leadership

COURSE LEARNING OUTCOMES (CLOs)	ALIGNED FLGs
CLO1: Clearly identify and define a loosely structured business problem	FLG 1
CLO2: Select and use effective techniques to address the major challenges presented	FLG 2
CLO3: Use IT tools to verify, validate, and provide solutions to the decision process	FLG 2, 4
CLO4: Communicate and support your solution with qualitative explanations	FLG 3, 5, 6

TEACHING AND LEARNING ACTIVITIES

Lecture: 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 responses 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. 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 able to present their answers correctly will be awarded higher in-class participation points.*

Assignments and Tutorial Sessions: Assignments will be assigned biweekly and answers will be given at the tutorial sessions. Assignments should be submitted online through Moodle before the specified deadlines. Late assignments are not accepted. Assignments will be graded for both effort and accuracy, and you should devote considerable time to solving these problems and showing detailed steps of the solutions. Practicing the problem-solving skills is essential for truly acquiring them. The tutorial sessions are valuable complements to the practice questions, as you will learn through active participation in the discussion carried out by Mr. Eric Tam. Additional problems may also be discussed every week during the tutorial. Tutorial participation will be assessed based on students' performance.

Project: The project will be an in-class business competition that will take place on **Nov 11**. No reports will be submitted, and your performance will be evaluated based on the outcome of the competition. You will need to join a group of **three to four** people and discuss with group members to find a reasonable strategy for the competition. To prepare for the competition, you need to play the game by yourselves many times beforehand. Collaboration is important for learning and doing well on this project.

Teaching and Learning Activities	Expected contact hour	Study Load (% of study)
T&L1. Interactive lectures	36	30%
T&L2. Tutorials	12	10%
T&L3. Group project and assignments	36	30%
T&L4. Self-study	36	30%
Total	120	100%

ASSESSMENT METHODS AND GRADING POLICY

Assessment Methods	Weight	Aligned CLO
Midterm exam (No make-up exam)	30%	CLO1, 2, 4
Final exam	40%	CLO1, 2, 4
Assignments	10%	CLO1, 2, 3, 4
In-class and tutorial participation	10%	CLO1, 2, 4
Project	10%	CLO1, 2, 3, 4
	Total: 100%	

Course Grade Descriptors

Grade	Descriptors
A+, A, A-	• Demonstrate a strong understanding of all relevant knowledge • Handling questions professionally • High participation in discussions • Present arguments that have an element of originality • Achieve a standard of excellent performance in the exams with very accurate computation and very good analytical and problem solving skills • Excellent writing report
B+, B, B-	• Demonstrate a good understanding of all relevant knowledge • Handling questions in a logical way • Good participation in discussions • Present arguments that go beyond the lecture and textbook • Achieve a standard of good performance in the exams with accurate computation and good analytical and problem solving skills • Good writing report
C+, C, C-	• Demonstrate a basic understanding of the concepts involved • Fairly address questions as set • Some participation in discussions • Present arguments in a well-structure manner • Meet a standard of acceptable performance in the exams with reasonably accurate computation and acceptable analytical and problem solving skills • Acceptable writing report
D+, D	• Demonstrate a minimum understanding of the concepts involved • Barely address questions as set • Minimal or no participation in discussions • Present arguments in a marginally acceptable manner • Meet a standard of marginally acceptable performance in the exams with some errors in computation and barely adequate analytical and problem solving skills • Marginally acceptable writing report
F	• Demonstrate a poor understanding of the concepts involved • Unable or unwilling to handle questions • Minimal or no participation in discussions • Present arguments poorly • Fail to meet a standard of passing the exams with major errors in computation and inadequate analytical and problem solving skills • Poorly writing report

Assessment Rubrics for written group project and exams	
A+, A, A-	• Demonstrate a strong understanding of all relevant knowledge • Present arguments that have an element of originality • Achieve a standard of excellent performance in the assessments with very accurate computation and very good analytical and problem solving skills • Excellent writing report
B+, B, B-	• Demonstrate a good understanding of all relevant knowledge • Present arguments that go beyond the lecture and textbook • Achieve a standard of good performance in the assessments with accurate computation and good analytical and problem solving skills • Good writing report
C+, C, C-	• Demonstrate a basic understanding of the concepts involved • Present arguments in a well-structure manner • Meet a standard of acceptable performance in the assessments with reasonably accurate computation and acceptable analytical and problem solving skills • Acceptable writing report
D+, D	• Demonstrate a minimum understanding of the concepts involved • Present arguments in a marginally acceptable manner • Meet a standard of marginally acceptable performance in the assessments with some errors in computation and barely adequate analytical and problem solving skills • Marginally acceptable writing report
F	• Demonstrate a poor understanding of the concepts involved • Present arguments poorly • Fail to meet a standard of passing the assessments with major errors in computation and inadequate analytical and problem solving skills • Poorly writing report
Assessment Rubrics for in-class and tutorial participation	
A+, A, A-	• High participation in discussions • Always attend the tutorials and in-class discussions • Demonstrate a strong understanding of all relevant knowledge • Handling questions professionally • Present arguments that have an element of originality • Respect others and follow the class rules (no chatting and do not use cell phone)
B+, B, B-	• Good participation in discussions • Often attend the tutorials and in-class discussions • Demonstrate a good understanding of all relevant knowledge • Handling questions in a logical way • Present arguments that go beyond the lecture and textbook • Respect others and follow the class rules (no chatting and do not use cell phone)
C+, C, C-	• Some participation in discussions • Sometimes attend the tutorials and in-class discussions • Demonstrate a basic understanding of the concepts involved • Fairly address questions as set • Present arguments in a well-structure manner • Respect others and follow the class rules (no chatting and do not use cell phone)

D+, D	• Minimal or no participation in discussions
	• Rarely attend the tutorials and in-class discussions
	• Demonstrate a minimum understanding of the concepts involved
	• Barely address questions as set
	• Present arguments in a marginally acceptable manner
	• Respect others and follow the class rules (no chatting and do not use cell phone)
F	• Minimal or no participation in discussions
	• Almost never attend the tutorials and in-class discussions
	• Demonstrate a poor understanding of the concepts involved
	• Unable or unwilling to handle questions
	• Present arguments poorly
	• Behave poorly in class (often chatting with others, using cell phones, or being late)

COURSE POLICY

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. 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.

Students are encouraged to give feedback on the course through mid-term survey in additional to SFTL around the end of the semester and online interaction via Moodle site.

		Tentative Course Schedule*
Week	**Friday**	**Topic**
1	Sep 02	- Introduction to Quantitative Analysis - Basic Probability & Statistics (Ch. 2)
2	Sep 09	- Basic Probability & Statistics (Ch. 2)
3[#]	Sep 16	- Decision Theory (Ch. 3)
4	Sep 23	- Decision Theory (Ch. 3) - Linear Programming (Ch. 7,8,9)
5[#]	Sep 30	- Linear Programming (Ch. 7,8,9) *- Project group member list due on Sep 30*
6	Oct 07	- Linear Programming (Ch. 7,8,9)
7	Oct 14	- Reading / Field Trip Week
8[#]	Oct 21	- Simulation (Ch. 13)
9	Oct 28	- Simulation (Ch. 13)
10[#]	Nov 04	- Simulation (Ch. 13)
11	Nov 11	*- Project due in class on Nov 11*
12	Nov 18	- Regression Models (Ch. 4)
13[#]	Nov 25	- Regression Models (Ch. 4) - Review
Classroom: CYPP2 (Chong Yuet Ming Physics Building)		
Exams	*Midterm exam: TBA* *Final exam: TBA*	

* Due dates and exam dates are subject to change. Please check Moodle for updated information.
[#] Individual assignment due in that week.