



1. General Information

Course Subject	IIMT
Course Number	3636
Course Title	Decision and risk analysis I
Academic Years	2024-2025
Grading Method	Letter

2. Instructors

Professor PARK, Minje
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4. Course Description

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.
Prerequisites	ECON1280: Analysis of economic data or STAT1602: Business statistic or STAT1603: Introductory statistics or STAT2601: Probability & statistics I

5. Course Objectives

1. 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: 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.

6. Faculty Learning Goals

Goal 1: Acquisition and internalization of knowledge of the programme discipline

Goal 2: Application and integration of knowledge

Goal 3: Inculcating professionalism

Goal 4: Developing global outlook

Goal 5: Mastering communication skills

Goal 6: Cultivating leadership

7. Course Learning Outcomes

Course Teaching and Learning Activities	Aligned Faculty Learning Goals					
	1	2	3	4	5	6
CLO1. Clearly identify and define a loosely structured business problem	✓					
CLO2. Select and use effective techniques to address the major challenges presented		✓				
CLO3. Use IT tools to verify, validate, and provide solutions to the decision process		✓		✓		
CLO4. Communicate and support your solution with qualitative explanations			✓		✓	✓

8. Course Teaching and Learning Activities

Course Teaching and Learning Activities #	Expected Study Hours	Study Load (% of study)
<p>T&L1. Interactive lectures:</p> <p>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.</p>	36	30
<p>T&L2. Tutorials</p> <p>The tutorial sessions are valuable complements to the practice questions, as you will learn through active participation in the discussion carried out</p>	12	10

8. Course Teaching and Learning Activities

by Mr. Eric Tam. Additional problems may also be discussed every week during the tutorial. Tutorial participation will be assessed based on students' performance.		
T&L3. Group project and assignments: The project will be an in-class business competition that will take place on November 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.	36	30
T&L4. Self-study	36	30
	Total: 120	Total: 100

9. Assessment Methods

Assessment Methods	Description	Weight %	Aligned Course Learning Outcomes
A1. Midterm exam (make-up exam)		30%	1,2,4
A2. Assignments		10%	1,2,3,4
A3. In-class and tutorial participation		10%	1,2,4
A4. Project		10%	1,2,3,4
A5. Final Exam		40%	1,2,4

Assessment Rubrics

Assessment Methods	Description
A1. Midterm exam (make-up exam)	
A+,A,A-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • 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

Assessment Rubrics

D+,D	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
A2. Assignments	
A+,A,A-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
A3. In-class and tutorial participation	
A+,A,A-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • 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

Assessment Rubrics

	<ul style="list-style-type: none"> • Present arguments in a well-structure manner • Respect others and follow the class rules (no chatting and do not use cell phone)
D+,D	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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)
A4. Project	
A+,A,A-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
A5. Final Exam	
A+,A,A-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • Demonstrate a basic understanding of the concepts involved • Present arguments in a well-structure manner

Assessment Rubrics

	<ul style="list-style-type: none"> •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	<ul style="list-style-type: none"> •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	<ul style="list-style-type: none"> •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

10. Course Grade Descriptors

A+,A,A-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • 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-	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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

11. Course Content and Tentative Teaching Schedule

Topic/	Content
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11. Course Content and Tentative Teaching Schedule

Session	
1	- Introduction to Quantitative Analysis- Basic Probability and Statistics (Ch. 2)
2	- Basic Probability and Statistics (Ch. 2)
3	- Decision Theory (Ch. 3)
4	- Decision Theory (Ch. 3) - Linear Programming (Ch. 7,8,9)
5	- Linear Programming (Ch. 7,8,9)
6	- Linear Programming (Ch. 7,8,9) - Project group member list due and Project release
7	- Reading / Field Trip Week
8	- Simulation (Ch. 13)
9	- Simulation (Ch. 13)
10	- Simulation (Ch. 13)
11	- Project due in class on Apr 12 - Regression Models (Ch. 4)
12	- Regression Models (Ch. 4)
13	- Regression Models (Ch. 4) - Review

12. Required/Recommended Readings & Online Materials

Reading	
	<ul style="list-style-type: none"> • Natalie Berg and Miya Knights. (2019). "Amazon: How the World's Most Relentless Retailer will Continue to Revolutionize Commerce" Kogan Page. • Henry Etzkowitz and Chunyan Zhou (2017). "The Triple Helix: University–Industry–Government Innovation and Entrepreneurship 2nd Edition", Routledge. • Chan Kim and Renée Mauborgne. (2017). "Blue Ocean Shift: Beyond Competing - Proven Steps to Inspire Confidence and Seize New Growth" Pan Macmillan UK. • Jim Dethmer, Diana Chapman, Kaley Warner Klemp. (2015). "The 15 Commitments of Conscious Leadership: A New Paradigm for Sustainable Success". Dethmer, Chapman & Klemp. • Ben Horowitz. (2014). "The Hard Thing About Hard Things: Building a Business When There Are No Easy Answers". Harper Business. • Dyer, Jeff; Gregersen, Hal; Christensen, Clayton M. (2011). "The Innovator's DNA: Mastering the Five Skills of Disruptive Innovators" Boston: HBS Press. • Christensen, Clayton (1997). "The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail". Boston: HBS Press. • Ries, Eric. (2011). "The Lean Start up." Crown Business. New York. • Thiel, Peter. (2014). "Zero to One". Penguin Virgin Books. London. • Tricker, Robert and Li, Gregg. (2019). "Understanding Corporate Governance in China." HKU Press. Hong Kong. • Baird, R. (2017). The Innovation Blind Spot: Why We Back the Wrong Ideas—and What to Do About It. Benbella Books. • Sutton, Robert J. and Rao, Huggy. (2014). "Scaling Up Excellence." Crown Business Publishing, New York. • Barbara Minto. (2010). "The Pyramid Principle: Logic in Writing and Thinking". Prentice Hall

13. Means / Processes for Student feedback on Course

✓	Conducting mid-term survey in additional to SETL around the end of the semester
	Online response via Moodle site
	Others

14. Course Policy

General requirements in plagiarism, academic honesty and attendance apply. Any lateness or absence to the class needs to have the lecturer(s) officially informed with sound reason – otherwise penalty in the form of mark deduction might apply.

15. Additional Course Information

Further to what has been described in the assessment section, participation and engagement in the class and tutorial is required in this course. Lecturers will help students to see into their own work and to assist to bring it into its fullest manifestation, through an effective and interactive learning.