GENERAL INFORMATION

Instructor: Dr. WANG, Liao

Email: lwang98@hku.hk

Office: KKL806
Phone: 3917 1535
Consultation times: TBA (check MOODLE course page)

Tutor: TBD

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

Co-requisites: None

Mutually exclusive: None

Course Website: Check Moodle course page

Other important details

COURSE DESCRIPTION

Business decision-making involves considerable complexity and uncertainty. This course introduces the basic concepts in quantitative business analysis to help students gain a clear understanding of the key elements in the decision making process. This course covers the tools and the skills to analyze and solve problems 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 GOALS

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

Goal 2: Application and integration of knowledge

Goal 3: Inculcating professionalism and leadership

Goal 4: Developing global outlook

Goal 5: Mastering communication skills

COURSE LEARNING OUTCOMES

Course Learning Outcomes

Aligned Faculty Goals

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

PLO1
PLO2
PLO2, 4
PLO3, 5

COURSE TEACHING AND LEARNING ACTIVITIES

Course 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

Brief Description (Optional)

Weight

Aligned Course Learning Outcomes

Midterm exam (No make-up exam)

Final exam

Assignments

In-class and tutorial participation

Group Project

30%

40%

10%

10%

CLO1, 2, 4

CLO1, 2, 4

CLO1, 2, 3, 4

CLO1, 2, 4

CLO1, 2, 3, 4

Total

100%

STANDARDS FOR ASSESSMENT
<table>
<thead>
<tr>
<th>Course Grade Descriptors</th>
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</thead>
<tbody>
<tr>
<td><strong>A+, A, A-</strong></td>
</tr>
<tr>
<td>- Demonstrate a strong understanding of all relevant knowledge</td>
</tr>
<tr>
<td>- Handling questions professionally</td>
</tr>
<tr>
<td>- High participation in discussions</td>
</tr>
<tr>
<td>- Present arguments that have an element of originality</td>
</tr>
<tr>
<td>- Achieve a standard of excellent performance in the exams with very accurate computation and very good analytical and problem solving skills</td>
</tr>
<tr>
<td>- Excellent project output</td>
</tr>
<tr>
<td><strong>B+, B, B-</strong></td>
</tr>
<tr>
<td>- Demonstrate a good understanding of all relevant knowledge</td>
</tr>
<tr>
<td>- Handling questions in a logical way</td>
</tr>
<tr>
<td>- Good participation in discussions</td>
</tr>
<tr>
<td>- Present arguments that go beyond the lecture and textbook</td>
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<tr>
<td>- Achieve a standard of good performance in the exams with accurate computation and good analytical and problem solving skills</td>
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<tr>
<td>- Good project output</td>
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<tr>
<td><strong>C+, C, C-</strong></td>
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<tr>
<td>- Demonstrate a basic understanding of the concepts involved</td>
</tr>
<tr>
<td>- Fairly address questions as set</td>
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<tr>
<td>- Some participation in discussions</td>
</tr>
<tr>
<td>- Present arguments in a well-structure manner</td>
</tr>
<tr>
<td>- Meet a standard of acceptable performance in the exams with reasonably accurate computation and acceptable analytical and problem solving skills</td>
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<tr>
<td>- Acceptable project output</td>
</tr>
<tr>
<td><strong>D+, D</strong></td>
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<tr>
<td>- Demonstrate a minimum understanding of the concepts involved</td>
</tr>
<tr>
<td>- Barely address questions as set</td>
</tr>
<tr>
<td>- Minimal or no participation in discussions</td>
</tr>
<tr>
<td>- Present arguments in a marginally acceptable manner</td>
</tr>
<tr>
<td>- Meet a standard of marginally acceptable performance in the exams with some errors in computation and barely adequate analytical and problem solving skills</td>
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<tr>
<td>- Marginally acceptable project output</td>
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<tr>
<td><strong>F</strong></td>
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<tr>
<td>- Demonstrate a poor understanding of the concepts involved</td>
</tr>
<tr>
<td>- Unable or unwilling to handle questions</td>
</tr>
<tr>
<td>- Minimal or no participation in discussions</td>
</tr>
<tr>
<td>- Present arguments poorly</td>
</tr>
<tr>
<td>- Fail to meet a standard of passing the exams with major errors in computation and inadequate analytical and problem solving skills</td>
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<tr>
<td>- Poor project output</td>
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## Assessment Rubrics for Each Assessment

**Assessment Rubrics for assignments, group project and exams**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
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</table>
| 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 project output (written report and/or quantitative performance measure). |
| 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 project output (written report and/or quantitative performance measure). |
| 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 project output (written report and/or quantitative performance measure). |
| 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 project output (written report and/or quantitative performance measure). |
| 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  
• Poor project output (written report and/or quantitative performance measure) that shows minimum efforts. |

## Assessment Rubrics for in-class and tutorial participation

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
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</table>
| 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 CONTENT AND TENTATIVE TEACHING SCHEDULE

Please see the tentative schedule attached at the end.

REQUIRED/RECOMMENDED READINGS & ONLINE MATERIALS (e.g. journals, textbooks, website addresses etc.)

Lecture slides will be uploaded on Moodle.


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: ________________________ (please specify)

COURSE POLICY (e.g. plagiarism, academic honesty, attendance, etc.)

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 SETL around the end of the semester and online interaction via Moodle site.

**ADDITIONAL COURSE INFORMATION** (e.g. e-learning platforms & materials, penalty for late assignments, etc.)

Assignments: Assignments will be assigned bi-weekly and late submission will *not* be accepted. Assignment grading is based on efforts (as opposed to accuracy). Assignment solutions will be provided and discussed in tutorials.

Group project: A quantitative project will be assigned, and you will form self-selected groups of four to five people. The project output will be assessed based on a written report and/or quantitative performance measure.
<table>
<thead>
<tr>
<th>Week</th>
<th>Mon</th>
<th>Tue</th>
<th>Thu</th>
<th>Fri</th>
<th>Topic</th>
</tr>
</thead>
</table>
| 1    | 14/01  | 15/01  | 17/01  | 18/01  | - Introduction to Quantitative Analysis  
|      |        |        |        |        | - Basic Probability & Statistics (Ch. 1)                              |
| 2    | 21/01  | 22/01  | 24/01  | 25/01  | - Basic Probability & Statistics (Ch. 1)  
|      |        |        |        |        | - Decision Theory (Ch. 2)                                            |
| 3    | 28/01  | 29/01  | 31/01  | 01/02  | - Decision Theory (Ch. 2)                                            |
| 4    | 04/02  | 05/02  | 07/02  | 08/02  | - Decision Theory (Ch. 2)                                            
|      |        |        |        |        | - Class suspension period for the Lunar New Year                      |
| 5    | 11/02  | 12/02  | 14/02  | 15/02  | - Decision Theory (Ch. 2)                                            
|      |        |        |        |        | - Linear Programming (Ch. 7, 8)                                      
|      |        |        |        |        | **Project group member list due on Feb 12**                          |
| 6    | 18/02  | 19/02  | 21/02  | 22/02  | - Linear Programming (Ch. 7, 8)                                      |
| 7    | 25/02  | 26/02  | 28/02  | 01/03  | - Linear Programming (Ch. 7, 8)                                      |
| 8    | 04/03  | 05/03  | 07/03  | 08/03  | - Reading/Field Trip Week                                            |
| 9    | 11/03  | 12/03  | 14/03  | 15/03  | - Linear Programming (Ch. 7, 8)                                      
|      |        |        |        |        | - Simulation (Ch. 4)                                                |
| 10   | 18/03  | 19/03  | 21/03  | 22/03  | - Simulation (Ch. 4)                                                |
| 11   | 25/03  | 26/03  | 28/03  | 29/03  | - Simulation (Ch. 4)                                                |
| 12   | 01/04  | 02/04  | 04/04  | 05/04  | - Simulation (Ch. 4)                                                
|      |        |        |        |        | **Project due on April 02, 12:30 pm**                                 |
| 13   | 08/04  | 09/04  | 11/04  | 12/04  | - Simulation (Ch. 4)                                                
|      |        |        |        |        | - Regression Models (Ch. 3)                                         |
| 14   | 15/04  | 16/04  | 18/04  | 19/04  | - Regression Models (Ch. 3)                                         |
| 15   | 22/04  | 23/04  | 25/04  | 26/04  | - Regression Models (Ch. 3)                                         
|      |        |        |        |        | - Review                                                            |

**Exams**

* Midterm exam: Time&Venue TBD  
  Final exam: Time&Venue TBD

* Due dates and exam dates are subject to change. Please check Moodle for updated information. Holidays are greyed.