**City University of Hong Kong**
**Course Syllabus**

**offered by Department of Marketing**
**with effect from Semester A 2022/23**

**Part I      Course Overview**

| | |
|---|---|
| **Course Title:** | Marketing Engineering |
| **Course Code**: | MKT6615 |
| **Course Duration:** | Intensive Teaching Mode / One Semester |
| **Credit Units**: | 3 |
| **Level**: | P6 |
| **Medium of Instruction:** | English |
| **Medium of Assessment:** | English |
| **Prerequisites**: *(Course Code and Title)* | MKT5610 Marketing Strategy and Planning MKT5612 Applied Marketing Research |
| **Precursors**: *(Course Code and Title)* | Nil |
| **Equivalent Courses**: *(Course Code and Title)* | Nil |
| **Exclusive Courses**: *(Course Code and Title)* | Nil |

## Part II    Course Details

### 1.    Abstract

This course aims to provide students with an understanding of the role of analytical techniques and computer models in enhancing marketing decisions in modern enterprises. Successful examples of marketing engineering as well as a software toolkit for the decision-making process will be provided. Ethics in marketing decision making will be emphasized. The focus is to foster and enhance students' skills in making IT-intensive marketing decisions.

### 2.    Course Intended Learning Outcomes (CILOs)
*(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)*

| No. | CILOs | Weighting (if applicable) | Discovery-enriched curriculum related learning outcomes (please tick where appropriate) | | |
|-----|-------|---------------------------|------|------|------|
| | | | *A1* | *A2* | *A3* |
| 1. | Understand how analytical techniques and computer models can enhance decision-making by converting data and information to insights and decisions | | ✓ | | |
| 2. | Master the skills to employ a software toolkit and apply the models and methods taught in the course to real marketing decision problems | | | ✓ | |
| 3. | Measure the profitability of marketing decisions | | | ✓ | |
| 4. | Able to conduct teamwork and suggest a solution to marketing problems, and to communicate with group members and to the other stakeholders outside of the group | | | | ✓ |
| 5. | Understand how to make marketing decisions with social responsibility and high standards for ethics | | ✓ | | |
| | | 100% | | | |

*A1:    Attitude*
*Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.*
*A2:    Ability*
*Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.*
A3:    *Accomplishments*
*Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.*

### 3. Teaching and Learning Activities (TLAs)
*(TLAs designed to facilitate students' achievement of the CILOs.)*

| TLA | Brief Description | CILO No. 1 | 2 | 3 | 4 | 5 | Hours/week (if applicable) |
|---|---|---|---|---|---|---|---|
| Lectures | Important knowledge of the role of analytical techniques and computer models in enhancing marketing decision in modern enterprises will be explained and delivered through lectures. Ethics-related issues are discussed throughout all lectures. | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Computer Lab Sessions | Application of the software tools will be demonstrated and actual hands-on discovery-based experience will be provided for students to master the skills in employing the tools and models in analytical analysis of marketing situation and problems. | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Group Project Report | The class will form self-selected groups of a suitable number of members during the first week of class. Each group will have to complete a group term project. Group members must work jointly to prepare the report and presentation. The objective of the term project is to provide students with an opportunity to discover a real marketing issue that is of interest to them, and apply what they have learnt in class to demonstrate how well they have mastered the skills learned and how to apply high standards of business ethics in decision making. The students can select a project topic of their own interest and then choose or develop a model to address the specific marketing decision involved. Students may decide to work on a project that involves one of the software tools not covered in class. | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Group Project Presentations | During the final sessions of the semester, each group will make a presentation to the entire class as one of the discovery accomplishments. | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Homework | In-class or out-class assignments will be given to students to work on independently to discover issues and knowledge, and to improve their problem solving ability. | ✓ | ✓ | ✓ | ✓ | ✓ | |

| In-Class Discussions | Class sessions will be devoted to probing, extending, and applying the material in the readings and the cases.  It is the students' responsibility to be prepared for each session as detailed in the course outline.  Each student is expected to contribute to class discussions. | ✓ | ✓ | ✓ | ✓ | ✓ | |

**4. Assessment Tasks/Activities (ATs)**

*(ATs are designed to assess how well the students achieve the CILOs.)*

| Assessment Tasks/Activities | CILO No. | | | | | Weighting | Remarks |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | | |
| Continuous Assessment:70% | | | | | | | |
| Group Term Project Report Students will work in groups on selected topics, where they can demonstrate how they can apply what they learned in class to solve business marketing problems. | ✓ | ✓ | ✓ | ✓ | ✓ | 20% | |
| Group Term Project Oral Presentation Students will prepare and deliver presentations on their group projects. | ✓ | ✓ | ✓ | ✓ | ✓ | 10% | |
| In-class Discussion Students need to participate in class discussions and activities and ask questions to facilitate their understanding of knowledge taught in class. | ✓ | ✓ | ✓ | ✓ | ✓ | 10% | |
| Individual Homework Out-of-class assignments will be given to students throughout the semester to test their understanding of class material. | ✓ | ✓ | ✓ | ✓ | ✓ | 30% | |
| Examination: 30% (duration: 2 hours, if applicable) | | | | | | | |
| Examination Students will be assessed via the examination for their understanding of concepts learned in class, textbooks, reading materials and their ability to apply subject-related knowledge. | ✓ | ✓ | ✓ | ✓ | ✓ | 30% | |
| | | | | | | 100% | |

**Regulation of the course**:

Students need to meet the attendance requirement of the Dept. of Marketing for the completion of the course.

## 5. Assessment Rubrics

*(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)*

Applicable to students admitted in Semester A 2022/23 and thereafter

| Assessment Task | Criterion | Excellent (A+, A, A-) | Good (B+, B) | Marginal (B-, C+, C) | Failure (F) |
|---|---|---|---|---|---|
| 1. Group Term Project Report | 1.1 ABILITY to INTEGRATE major concepts of marketing engineering to marketing problems, and IDENTIFY the ways of defining, designing and conducting analytical marketing analysis | Excellent | Good | Marginal | Not reaching marginal levels |
| | 1.2 ABILITY to IDENTIFY the various process and procedures in analytical decision making. | Excellent | Good | Marginal | Not reaching marginal levels |
| | 1.3 COMPETENCE to ANALYZE marketing data using software package. | Excellent | Good | Marginal | Not reaching marginal levels |
| | 1.4 ABILITY to RECOMMEND solutions to a marketing problem based on the analysis of marketing data with EMPHASIS on business ethics. | Excellent | Good | Marginal | Not reaching marginal levels |
| | 1.5 ABILITY to PRESENT and ORGANIZE information in a business report format. | Excellent | Good | Marginal | Not reaching marginal levels |
| 2. Group Term Project Oral Presentation | 2.1 ABILITY to present and communicate information in oral and electronic format | Excellent | Good | Marginal | Not reaching marginal levels |
| | 2.2 ABILITY to show coverage of contents and demonstrate time management skills | Excellent | Good | Marginal | Not reaching marginal levels |

| | | Excellent | Good | Marginal | Not reaching marginal levels |
|---|---|---|---|---|---|
| | 2.3 ABILITY to provide quality answers to questions raised in the presentation Q&A session. | Excellent | Good | Marginal | Not reaching marginal levels |
| 3. In-Class Discussion | 3.1 ABILITY to show familiarity with key concepts and definitions. | Excellent | Good | Marginal | Not reaching marginal levels |
| | 3.2 ABILITY to state critical points and make contributions of the assigned questions or problem | Excellent | Good | Marginal | Not reaching marginal levels |
| | 3.3 ABILITY to participate and equip with excellent presentation skills | Excellent | Good | Marginal | Not reaching marginal levels |
| 4. Individual Homework | 4.1 ABILITY to show excellent analytic skills in solving marketing engineering problems. | Excellent | Good | Marginal | Not reaching marginal levels |
| | 4.2 ABILITY to command critical discussing of the marketing engineering models and their applications, and the key roles of business ethics in marketing decisions. | Excellent | Good | Marginal | Not reaching marginal levels |
| | 4.3 ABILITY to select, analyse and evaluate the analytical models used in marketing engineering | Excellent | Good | Marginal | Not reaching marginal levels |
| | 4.4 ABILITY to apply both managerial judgment and analytical approaches to current marketing problems and issues | Excellent | Good | Marginal | Not reaching marginal levels |
| 5. Examination | 5.1 ABILITY to grasp of all aspects of the course, with the ability to integrate major concepts of | Excellent | Good | Marginal | Not reaching marginal levels |

| | | | | | |
|---|---|---|---|---|---|
| | marketing engineering to marketing problems. | | | | |
| | 5.2 ABILITY to identify the various process and procedures in collecting and analyzing marketing data and the relevant methodologies used. | Excellent | Moderate | Marginal | Not reaching marginal levels |
| | 5.3 ABILITY to apply course content in practical marketing situations and make decisions based on the output of marketing analytics. | Excellent | Good | Marginal | Not reaching marginal levels |

Applicable to students admitted before Semester A 2022/23

| Assessment Task | Criterion | Excellent (A+, A, A-) | Good (B+, B, B-) | Fair (C+, C, C-) | Marginal (D) | Failure (F) |
|---|---|---|---|---|---|---|
| 1. Group Term Project Report | 1.1 ABILITY to INTEGRATE major concepts of marketing engineering to marketing problems, and IDENTIFY the ways of defining, designing and conducting analytical marketing analysis | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| | 1.2 ABILITY to IDENTIFY the various process and procedures in analytical decision making. | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| | 1.3 COMPETENCE to ANALYZE marketing data using software package. | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| | 1.4 ABILITY to RECOMMEND solutions to a marketing problem | High | Significant | Moderate | Basic | Not even reaching marginal levels |

| | | High | Significant | Moderate | Basic | Not even reaching marginal levels |
|---|---|---|---|---|---|---|
| | based on the analysis of marketing data with EMPHASIS on business ethics. | | | | | |
| | 1.5 ABILITY to PRESENT and ORGANIZE information in a business report format. | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| 2. Group Term Project Oral Presentation | 2.1 ABILITY to present and communicate information in oral and electronic format | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| | 2.2 ABILITY to show coverage of contents and demonstrate time management skills | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| | 2.3 ABILITY to provide quality answers to questions raised in the presentation Q&A session. | High | Significant | Moderate | Basic | Not even reaching marginal levels |

| 3. In-Class Discussion | 3.1 ABILITY to show familiarity with key concepts and definitions. | High | Significant | Moderate | Basic | Not even reaching marginal levels |
|---|---|---|---|---|---|---|
| | 3.2 ABILITY to state critical points and make contributions of the assigned questions or problem | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| | 3.3 ABILITY to participate and equip with excellent presentation skills | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| 4. Individual Homework | 4.1 ABILITY to show excellent analytic skills in solving marketing engineering problems. | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| | 4.2 ABILITY to command critical discussing of the marketing engineering models and their applications, and the key roles of business ethics in marketing decisions. | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| | 4.3 ABILITY to select, analyse and evaluate the analytical models used in marketing engineering | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| | 4.4 ABILITY to apply both managerial judgment and analytical approaches to current marketing problems and issues | High | Significant | Moderate | Basic | Not even reaching marginal levels |

| 5. Examination | 5.1 ABILITY to grasp of all aspects of the course, with the ability to integrate major concepts of marketing engineering to marketing problems. | High | Significant | Moderate | Basic | Not even reaching marginal levels |
|---|---|---|---|---|---|---|
| | 5.2 ABILITY to identify the various process and procedures in collecting and analyzing marketing data and the relevant methodologies used. | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| | 5.3 ABILITY to apply course content in practical marketing situations and make decisions based on the output of marketing analytics. | High | Significant | Moderate | Basic | Not even reaching marginal levels |

**Part III    Other Information** (more details can be provided separately in the teaching plan)

1.    **Keyword Syllabus**
      *(An indication of the key topics of the course.)*

Marketing analysis and planning, computer-assisted marketing, analytical marketing, marketing decision models, market response models, marketing analytics, marketing science, decision modelling.

2.    **Reading List**
2.1    **Compulsory Readings**
      *(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)*

| 1. | Gary L. Lilien, Arvind Rangaswamy. And Arnaud De Bruyn., "Principles of Marketing Engineering and Analytics", 3rd ed. DecisionPro, 2017. ISBN: 0-9857-6482-1. |
|---|---|

2.2    **Additional Readings**
      *(Additional references for students to learn to expand their knowledge about the subject.)*

| 1. | Wayne L. Winston, "Marketing Analytics: Data-Driven Techniques with Microsoft Excel", Wiley, 2014. |
|---|---|
| 2. | Paul W. Farris, Neil T. Bendle, Phillip E. Pfeifer, & David J. Reibstein. *Marketing metrics: The definitive guide to measuring marketing performance*. 2010, 2nd Ed. Prentice Hall. |
| 3. | Leeflang, Peter S.H. et al. *Building Models for Marketing Decisions*. 2000. Boston, MA: Kluwer. |