# City University of Hong Kong Course Syllabus 

offered by College/School/Department of _Mathematics with effect from Semester __B__20_17_/ 18

## Part I Course Overview

## Sampling Survey Methods for Social and Market Research

Course Title:
MA4549

Course Code:

## One Semester

Course Duration:

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    3
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## Credit Units:

## B4

Level:

Proposed Area:
(for GE courses only)
$\square$ Arts and HumanitiesStudy of Societies, Social and Business Organisations
$\square$ Science and Technology

Medium of
Instruction:
English

Medium of

## English

Prerequisites:
(Course Code and Title)
Precursors:
(Course Code and Title)
Equivalent Courses: Nil
(Course Code and Title)
Exclusive Courses:
(Course Code and Title)

MA3518 Applied Statistics

Nil
MA2506 Probability and Statistics
$\qquad$

## Part II Course Details

1. Abstract
(A 150-word description about the course)

This course aims to develop skills important for the design and analysis of research in the social sciences and in market research. Specific focus will be on developing skills for survey sampling, and questionnaire design and analysis.
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* <br> (if <br> applicable) | Discovery-enriched <br> curriculum related <br> learning outcomes <br> (please tick where <br> appropriate) |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  | $A 1$ | $A 2$ |

\# Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

## 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. |  |  |  | Hours/week (if <br> applicable) |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  | 1 | 2 | 3 | 4 | 5 | $\mathbf{6}$ |  |
| Teaching | Learning through teaching is <br> primarily based on lectures | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  | 35 hours in total |
| Project | Learning through project helps <br> students apply sampling methods to a <br> concrete application. | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  | After class |
| Computer lab | Learning through lab demonstration | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  |  | 4 hours in total |


| demonstration | allows students to develop hands-on <br> skills of using statistical software (in <br> particular R software) to analyse data |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| hand-in <br> assignments | Learning through assignments helps <br> students understand the theoretical <br> basis and identify practical <br> applications of sampling, and develop <br> the ability of analysing practical <br> problems | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  |  | After class |

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 | 6 |  |  |
| Continuous Assessment:_40_\% |  |  |  |  |  |  |  |  |
| Mid-term test | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  |  | 15-25\% |  |
| Project | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  | 15\% |  |
| Hand-in assignment | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  | 0-10\% |  |
| Examination | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  | 60\% |  |
|  |  |  |  |  |  |  |  |  |
| Examination: _60__\% (duration: 2 hrs, if applicable) |  |  |  |  |  |  |  |  |
| * The weightings should add up to $100 \%$. |  |  |  |  |  |  | 100\% |  |

## 5. Assessment Rubrics

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

| Assessment Task | Criterion | Excellent <br> (A+, A, A-) | Good <br> (B+, B, B-) | Fair <br> $(\mathrm{C}+, \mathrm{C}, \mathrm{C}-)$ | Marginal <br> (D) | Failure <br> (F) |
| :--- | :--- | :--- | :---: | :---: | :---: | :--- |
| 1. Mid-term test | Ability in problem <br> solving | High | Significant | Moderate | Basic | Not even reaching <br> marginal levels |
| 2. Project | Creativity and Team <br> work ability | High | Significant | Moderate | Basic | Not even reaching <br> marginal levels |
| 3. Assignments | Comprehensive <br> ability in independent <br> problem solving | High | Significant | Moderate | Basic | Not even reaching <br> marginal levels |
| 4. Examination | Comprehensive <br> ability in independent <br> problem solving | High | Significant | Moderate | Basic | Not even reaching <br> 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.)

Simple random sampling; ratio estimation; regression estimation; systematic sampling; stratified sampling; unequal probability sampling; cluster sampling; multi-stage cluster sampling; questionnaire design.

## 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. |  |
| :--- | :--- |
| 2. |  |
| 3. |  |
| $\ldots$ |  |

### 2.2 Additional Readings

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

| 1. | Lohr, S. Sampling: Design and Analysis, Duxbury Press, 1999. |  |
| :--- | :--- | :--- |
| 2. | Scheaffer, R., Mendenhall, W., Ott, L. Elementary Survey Sampling. 5th edition, Duxbury Press, 1996. |  |
| 3. |  |  |
| $\ldots$ |  |  |

