

**City University of Hong Kong
Course Syllabus**

**offered by Department of Systems Engineering
with effect from Semester A 2024 / 25**

Part I Course Overview

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| Course Title: | <u>Research Methodology</u> |
| Course Code: | <u>SYE8009</u> |
| Course Duration: | <u>To be completed normally in 1 academic year or 2 semesters</u> |
| Credit Units: | <u>2</u> |
| Level: | <u>R8</u> |
| Medium of Instruction: | <u>English</u> |
| Medium of Assessment: | <u>English</u> |
| Prerequisites: <i>(Course Code and Title)</i> | <u>Nil</u> |
| Precursors: <i>(Course Code and Title)</i> | <u>Nil</u> |
| Equivalent Courses: <i>(Course Code and Title)</i> | <u>SEEM8009 Research Methodology (offered until 2021/22) ADSE8009 Research Methodology (offered until 2023/24)</u> |
| Exclusive Courses: <i>(Course Code and Title)</i> | <u>Nil</u> |

Part II Course Details

1. Abstract

This course aims to provide MPhil/PhD students with

- a. the fundamental elements of research methodology which include literature review, problem identification, research methodology, writing and presentation, and spiritual science that is needed for carrying out a good research work;
- b. formal forums for the research students to -
 - broaden their knowledge and expertise;
 - present their research findings and discuss their learning experiences with their peers and academic staff; and
 - develop a strong research mindset and scholarship.

2. Course Intended Learning Outcomes (CILOs)

| No. | CILOs | Weighting (if applicable) | Discovery-enriched curriculum related learning outcomes | | |
|-----|---|------------------------------|---|----|----|
| | | | A1 | A2 | A3 |
| 1. | Have a general background of research (basic elements); | 10% | ✓ | | |
| 2. | Develop a good mind set for research (spiritual science) | 10% | ✓ | | |
| 3. | Formulate a good research framework - problem identification, theory development, creative thinking and execution; (research science) □ | 50% | | ✓ | |
| 4. | Manage effectively research activities - reading, writing and presentation, life control, and challenge the future; (research management) | 15% | ✓ | ✓ | |
| 5. | Communicate with fellow peers regarding own or others' research findings and experience scholarly and logically. | 15% | | | ✓ |
| | | 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. Learning and Teaching Activities (LTAs)

| LTA | Brief Description | CILO No. | | | | | Hours/week (if applicable) |
|---------------------------------|--|----------|---|---|---|---|----------------------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Class ^a (Lecture) | Fundamental theories and discoveries together with examples will be provided. | ✓ | ✓ | ✓ | ✓ | ✓ | 18 hours/sem |
| Groupwork ^a | Challenging questions are for students to consider and discuss in the class. Every student will present his own research study and answer the questions from lecturer and other students after the lecture. | ✓ | | ✓ | ✓ | | 9 hours/sem |
| Research Seminar | Each student is required to attend and participate in a minimum of 13 approved research seminars organized by the department, and submit a portfolio of brief write-ups and reflections of the research seminars attended and presented. | | | | | ✓ | 13 hours/sem |

Note ^aClass activities are made up of lectures and groupwork. The latter is used as platform for reflective and interactive learning among the students and the instructors or research supervisors. Activities include individual presentation at the class, group discussion and critique of fellow students' research design and methodology in general and their thesis proposals development in particular.

4. Assessment Tasks/Activities (ATs)

| Assessment Tasks/Activities | CILO No. | | | | | Weighting | Remarks |
|--|----------|---|---|---|---|-----------|---------|
| | 1 | 2 | 3 | 4 | 5 | | |
| Continuous Assessment: <u>100</u> % | | | | | | | |
| Coursework | ✓ | ✓ | ✓ | ✓ | ✓ | 100% | |
| Examination: % (duration: , if applicable) | | | | | | | |
| | | | | | | 100% | |

5. Assessment Rubrics

Applicable to students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter

| Assessment Task | Criterion | Pass (P)/ Fail (F) |
|-----------------|--|--------------------|
| 1. Coursework | Materials for presentation; Presentation skill; Response to questions; Seminar reports; | Pass/ Fail |

- 100% coursework. Pass or Fail.
- The portfolio is a collection of critiques and reflections of the research seminars attended and presented. Students are also encouraged to include documented evidence of his/her learning from the lectures and groupwork in the portfolio.
- The assessment of the portfolio includes the student's qualifying panel's evaluation of the candidate's research seminar presentation.

Applicable to students admitted from Semester A 2022/23 to Summer Term 2024

| Assessment Task | Criterion | Pass (P)/ Fail (F) |
|-----------------|--|--------------------|
| 1. Coursework | Materials for presentation; Presentation skill; Response to questions; Seminar reports; | Pass/ Fail |

- 100% coursework. Pass or Fail.
- The portfolio is a collection of critiques and reflections of the research seminars attended and presented. Students are also encouraged to include documented evidence of his/her learning from the lectures and groupwork in the portfolio.
- The assessment of the portfolio includes the student's qualifying panel's evaluation of the candidate's research seminar presentation.

Part III Other Information

1. Keyword Syllabus

Research design, research methodology, quantitative and qualitative methods, research writing and presentation, research seminars

2. Reading List

2.1 Compulsory Readings

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|----|---|
| 1. | Paul Leedy and Jeanne Ormrod, Practical Research (7th edition), Merrill Prentice Hall, 2001 |
| 2. | Rowena Murray, How to Write a Thesis, Open U Press, 2002 |
| 3. | Elbert Hubbard, A Message to Garcia, 1899□ |

2.2 Additional Readings

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| 1. | Barbara Minto, The MINTO Pyramid Principle: Logic in Writing, Thinking and Problem Solving, 2007, Big Apple Tuttle-Mori Agency, Inc, Malaysia. (Chinese edition: 金字塔原理: 思考、表达和解决问题的逻辑) |
| 2. | 大前研一, 思考的技术, 2004 (Original in Japanese, no English edition) |
| 3. | Hill Napoleon, Think and Grow Rich, 1937 |