The Hong Kong University of Science and Technology

UG Course Syllabus

Course title: Research Methods in Psychological Science

Course code: SOSC1990

Credits: 3

No pre-requisites

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Course Description

This course introduces students to the basic research principles in psychological science. It evaluates various research designs and statistical analyses, and discusses relevant ethical issues encountered in studying human behaviors.

Intended Learning Outcomes (ILOs)

By the end of this course, students should be able to:

1. recognize the basic research principles in psychological science
2. evaluate various research designs and statistical analyses commonly used in research on psychological science
3. demonstrate the ability to apply the professional ethics in conducting research and practice of psychological science
4. demonstrate skills of scientific reasoning, effective research methods, and problem solving
5. demonstrate the ability to critically read, summarize, interpret, and evaluate information regarding behavioural phenomena and social issues
6. demonstrate the ability to present, discuss, and explain knowledge about psychological science with clarity in both oral and written forms

Assessment and Grading

This course will be assessed using criterion-referencing and grades will not be assigned using a curve. Detailed rubrics for each assignment are provided below, outlining the criteria used for evaluation.

Assessments:

Assessment Task	Contribution to Overall Course grade (%)	Due date
In-Class Participation	10%	-
Online learning assessment	10%	-
Research Experience	5%	
Mid-term Quiz	25%	17/3/2026
Group Project		
Research Proposal	15%	3/4/2026
Presentation	15%	29/4/2026
Project report	20%	8/5/2026
Peer Review	-	8/5/2026

Mapping of Course ILOs to Assessment Tasks

Assessed Task	Mapped ILOs	Explanation
In-Class Participation	[ILO1, ILO2, ILO3, ILO4, ILO5]	This task assesses students' ability to explain the principles and apply practices of psychological research (ILO1, ILO2), including applying ethics (ILO3), critical thinking (ILO4, IOL5).
Online learning assessment		
Research Experience		
Mid-term Quiz	[ILO1, ILO2, ILO3, ILO4, ILO5, ILO6]	This task assesses students' ability to explain the principles and apply practices of psychological research (ILO1, ILO2), including applying ethics (ILO3), critical thinking (ILO4, IOL5), and effective communication skills to investigate behavioral phenomena, interpret findings, and present psychological knowledge (ILO6).

Group Project
  Research Proposal
  Presentation
  Group Project Report
  Peer Evaluations
	[ILO1, ILO2, ILO3, ILO4, ILO5, ILO6]	This task assesses students' ability to explain the principles and apply practices of psychological research (ILO1, ILO2), including applying ethics (ILO3), critical thinking (ILO4, IOL5), and effective communication skills to investigate behavioral phenomena, interpret findings, and present psychological knowledge (ILO6).

Assessment overview

1. In-Class Participation (10%)

Throughout the semester, there will be attendance taking. The attendance will be conducted through a variety of in-class activities including but not limited to quick survey and group discussions. Each attendance counts for 1% of your final score, which accumulated to 10% in total.

2. Online learning assessment (10%)

Online learning outcome will be evaluated through quizzes administered online or during face-to-face class. These quizzes are designed to reinforce key concepts, monitor progress, and ensure consistent engagement across the blended learning components. They will assess students' understanding of core topics and provide timely feedback to guide further learning.

3. Research Experience (5%)

To allow you to gain first-hand experience how psychological research is conducted, you are required to either 1) complete a psychological research study or 2) read in-depth research articles and write reflections on them. Details will be announced in due course.

4. Mid-term quiz (25%)

- A Mid-term quiz will be administered to test your understanding of course materials. Exams are multiple-choice and True/False questions.
- Midterm quiz is scheduled on **March 17**.
- Arrive on time for the exams as no additional time will be given for students arriving late.
- No make-up exams will be given to students who are absent from the examination unless students can provide underline validated medical reasons. You should notify the instructor or TA (through email) about your absence by attaching your underline official medical certificate **within 24 hours of the original exam date** if you wish to arrange for a make-up exam. All make-up exams will ONLY be in the form of **essays and oral questions**.

5. Group Project (50%)

Groups of **five students** will be formed to conduct a research study. The official group formation date is **February 24**. You are encouraged to **form your own groups before this date** and submit your group information via **Canvas**. Students who have not joined a group by the deadline will be **randomly assigned** by the instructor or teaching assistant.

The **research topic** will be announced in due course. Each group will design and carry out a **psychological study** using either a **survey** or **experimental design**, collecting data from **HKUST students** as participants.

Research Proposal (15%) (**due on April 3**):

Lit Review (10%): Your group will review previous psychological studies and complete a Lit Review Report based on the assigned research topic.

Research Question (5%): Based on the literature review, your group needs to formulate a research hypothesis(es) and to propose a research design to test your hypothesis(es).

Group Presentation (35%)

Presentation (15%): Presentation will be evaluated on the presentation slides, research content, presentation skills, coherence, and performance in Q&A sessions. Detailed guidelines will be provided in due course. PPT slides need to be submitted before the

proposed deadline. **Two points will be deducted** if the submission of the group PPT on CANVAS is not on time (**5PM on April 29**, no grace period is allowed).

Project Report (20%): A word document reporting the group project. The report will be evaluated based on the quality of content in three study sections: Introduction, Method, Results, and Discussion. The word count should not exceed **1200 words**. Graphs and plots are recommended to illustrate the protocol and the results.

Peer evaluation:

Contributions of group members will be evaluated towards the completion of the project. Each person's individual grade in Group Project will be adjusted based on the peer evaluations. The deadline to submit the peer evaluation is **May 8**.

Final Grade Descriptors:

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	Demonstrates a comprehensive grasp of subject matter, expertise in problem-solving, and significant creativity in thinking. Exhibits a high capacity for scholarship and collaboration, going beyond core requirements to achieve learning goals.
B	Good Performance	Shows good knowledge and understanding of the main subject matter, competence in problem-solving, and the ability to analyze and evaluate issues. Displays high motivation to learn and the ability to work effectively with others.
C	Satisfactory Performance	Possesses adequate knowledge of core subject matter, competence in dealing with familiar problems, and some capacity for analysis and critical thinking. Shows persistence and effort to achieve broadly defined learning goals.
D	Marginal Pass	Has threshold knowledge of core subject matter, potential to achieve key professional skills, and the ability to make basic judgments. Benefits from the course and has the potential to develop in the discipline.
F	Fail	Demonstrates insufficient understanding of the subject matter and lacks the necessary problem-solving skills. Shows limited ability to think critically or analytically and exhibits minimal effort towards achieving learning goals. Does not meet the threshold requirements for professional practice or development in the discipline.

Course AI Policy

Restrict ways of using generative AI tools for assessment

Communication and Feedback

Assessment marks for individual assessed tasks will be communicated via Canvas within two-four weeks of submission. Students who have further questions about the feedback including marks should consult the instructor or TA within five working days after the feedback is received.

Suggested Texts

Shaughnessy, J. J., Zechmeister, E. B., & Zechmeister, J. S. (2015). Research methods in psychology (10th ed.). New York: McGraw-Hill.

Academic Integrity

Students are expected to adhere to the university's academic integrity policy. Students are expected to uphold HKUST's Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to [Academic Integrity | HKUST – Academic Registry](#) for the University's definition of plagiarism and ways to avoid cheating and plagiarism.

Course Communication Platform

All lecture materials and announcements will be posted on CANVAS. Be sure to check CANVAS from time to time for any updated news. Interaction between the lecturer and the students is one of the key ingredients to an optimal learning experience. You can share any thoughts relevant to the course by email. These can be things you come across in your everyday life which are related to what you have learned in class.

Other Notes

- *Interaction in class* – I believe interactions (both verbal and non-verbal) between the lecturer and the students (and among students) are one of the key ingredients to an optimal learning experience. Your active participation in class discussion or activities will not only enhance your learning, but also motivate the teaching team to do better! Stay behind the class and share with me your thoughts about the course contents.
- *Lecture slides* – Lecture slides will be posted to CANVAS before each class, but the contents will be a bit different from the displayed slides as I hope to encourage you to take your own notes. Note-taking facilitates your reflection and assimilation of the lecture contents.
- *Penalties* – Score deduction applies to any assignments over the word limit. Details can be found in the assignment guidelines.
- *Late submission* – For any group assignment, the group leader will do the submission. Submissions received less than 5 hours after the deadline will not be penalized. No submissions will be accepted after 5pm HKT on the due date.
- *Communication* – Please expect that your emails will be responded to during weekdays 10 am to 5 pm HKT.
- *Feedback* – Your opinions about the course are very valuable to improving the course. A course evaluation will be held at the end of the course. You are also very much welcome to talk to the teaching team.

Teaching Schedule [SOSC1990 L1]

Week	Date	Learning mode	Topic
1.	Feb 3	F2F	Introduction
	Feb 5	Online	Research Questions and Hypotheses Formulation
2.	Feb 10	F2F	Research Ethics
	Feb 12	Online	
3.	Feb 17	-	*Lunar New Year Holiday (no class)*
	Feb 19	-	
4.	Feb 24	F2F	Understanding psychological research: What do Psychologists do?
	Feb 26	Online	Psychological Measurement
5.	March 3	Online	Conducting Literature Search
	March 5	Online	Qualitative Research Methods
6.	March 10	F2F	
	March 12	Online	Mid-term Review
7.	**March 17**	**F2F**	**Mid-term Quiz**
	March 19	Online	Survey
8.	March 24	F2F	Survey Design: Discussion
	March 26	Online	Experimental Designs: Basics
9.	March 31	F2F	Experimental Designs: Discussion I
	April 2	-	*Group study: Research proposal*
10.	April 7	Online	Group Project Consultations Part 1
	April 9	-	*Mid-Term Break (no class)*
11.	April 14	Online	Group Project Consultations Part 2
	April 16	Online	Descriptive & Inferential Statistics
12.	April 21	F2F	Experimental Designs: Discussion II
	April 23	-	*Group Project Data Collection*
13.	April 28	F2F	Workshop: How to analyze your data?
	April 30	-	*Group study: Research project finalization*
14.	May 5	F2F	Group Project and Q & A Sessions
	May 7	Online	

Teaching Schedule [SOSC1990 L2]

Week	Date	Learning mode	Topic
1.	Feb 3	Online	Research Questions and Hypotheses Formulation
	Feb 5	F2F	Introduction
2.	Feb 10	Online	Research Ethics
	Feb 12	F2F	
3.	Feb 17	-	Lunar New Year Holiday (no class)
	Feb 19	-	
4.	Feb 24	Online	Psychological Measurement
	Feb 26	F2F	Understanding psychological research: What do Psychologists do?
5.	March 3	Online	Qualitative Research Methods
	March 5	F2F	
6.	March 10	Online	Conducting Literature Search
	March 12	Online	Mid-term Review
7.	March 17	F2F	Mid-term Quiz
	March 19	Online	Survey
8.	March 24	-	Group study: Research proposal
	March 26	F2F	Survey Design: Discussion
9.	March 31	Online	Experimental Designs: Basics
	April 2	F2F	Experimental Designs: Discussion I
10.	April 7	Online	Group Project Consultations Part 1
	April 9	-	Mid-Term Break (no class)
11.	April 14	Online	Group Project Consultations Part 2
	April 16	F2F	Experimental Designs: Discussion II
12.	April 21	Online	Descriptive & Inferential Statistics
	April 23	F2F	Workshop: How to analyze your data?
13.	April 28	-	Group Project Data Collection
	April 30	-	Group study: Research project finalization
14.	May 5	Online	Group Project and Q & A Sessions
	May 7	F2F	

Important dates [SOSC1990L1 & L2]

Date	Task due
Feb 24	Finalized Group List
March 17	Mid-term quiz
April 3	Group Project Proposal
April 29	Group Project PPT

| May 8 | Peer Evaluations |
| May 12 | Research Experience |