The Hong Kong University of Science and Technology
UG Course Syllabus

SOSC 1050: Introduction to Social Science Research (Fall 2025)
3 Credits
Pre-requisites: None

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Class Meeting Time: Tuesday and Thursday, 15:00-16:20
Office Hours: Thursdays, 16:30-18:30
Teaching Assistants: ZHANG Anning, annizan@ust.hk, ZHANG Yating, yzhangtq@connect.ust.hk

Course Description

This course presents a broad introduction to standard practice in social analysis by introducing a series of concepts that will serve as the basis for greater understanding in later courses. The course also showcases how such techniques are applied in modern social analysis. Throughout the lecture material, important classic and modern examples of published research will be used to illustrate applications of the topics. Where appropriate, differences in norms and practices between the major social science disciplines will be highlighted and discussed. Strengths and limitations of quantitative approaches to social analysis will be highlighted throughout the course. Students will demonstrate their facility with the concepts introduced in the course through class participation and original writing assignments.

Intended Learning Outcomes (ILOs)

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

1. Understand the types of research questions and social phenomena that are able to be addressed using standard social science research techniques
2. Understand the process and components of social science research, including how to (1) formulate research questions, (2) develop theories, (3) come up with appropriate research designs, (4) collect data, and (5) analyze collected data.
3. Identify exemplary studies that have advanced our current understanding of important social phenomena.
4. Apply their understanding of best practices in social analysis to new problems and questions.

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
Development of a Research Question	20%	Thursday, October 9 by 23:59
Annotated Bibliography	25%	TBD
Research Design Paper	35%	TBD

Attendance	10%	Throughout course, after drop/add
Class Participation	10%	Throughout course

Mapping of Course ILOs to Assessment Tasks

Assessed Task	**Mapped ILOs**	**Explanation**
Development of a Research Question	ILO1, ILO2, ILO4	On a topic of his or her choosing, each student will, in about 500 words, develop a social science research question that could potentially be addressed using empirical social science research techniques. The specific questions themselves will usually be only one or at most two sentences. The remainder of the 500 words should be used to convince the reader that the chosen topic is an interesting and important one to study. More details will be provided in class.
Annotated Bibliography	ILO1, ILO2, ILO3	On the same topic chosen for his or her research question, each student will construct an annotated bibliography consisting of about 150-200 words on each of 7–10 different sources from the scholarly literature. The 150-200 words should briefly summarize the main findings of each citation, discuss their scholarly connections, and offer appropriate critical commentary. The description should not be mere summary. More details will be provided in class.
Research Design Paper	ILO1, ILO2, ILO3, ILO4	In consultation with the instructor, students will develop an original research design on a topic of their choosing. Students should suggest a feasible research project that could be carried out in the future, using the course materials as guidance. Students are not expected to actually carry out the suggested empirical analysis. In a writeup of about 4000 words to be turned in during finals week, students will develop a literature review, suggest a theoretical framework, draw testable hypotheses, and suggest how they would use empirical social science research techniques to address the phenomenon. More details will be provided in class.

Attendance		Attendance is required. Students can miss two class sessions for any reason without penalty. Any additional absences will only be excused with a valid excuse backed up by documentation.
Class Participation	ILO1, ILO2, ILO3, ILO4	After each class, the instructor will assess student contributions to discussion.

Grading Rubrics

Development of a Research Question

- Marking distinctions will be based on the following criteria:
    - A: Student provides a clear research question about a substantive problem that could potentially be studied with empirical data. This question is supported by a clear description of why the substantive problem is an important topic to study, and why it is an interesting research puzzle.
    - B: Almost all of the criteria for an A grade are covered, but detail or clarity may be lacking; or some of the criteria for an A grade are not covered, but the criteria that are covered are performed at A level.
    - C: Generally only some of the criteria for an A grade are covered and improvements could be made with respect to the clarity, the argument for interestingness, and/or the argument for importance.
    - D: Assignment is performed but all of the criteria for an A grade are either missing or lacking sufficient clarity.
    - F: Not enough information is presented to demonstrate understanding of the course material.

Annotated Bibliography

- Marking distinctions will be based on the following criteria:
    - A: Student identified five different sources from the scholarly literature, summarized the main findings of each of the five sources, and offered some critical commentary for each of the five sources. The summary and critical commentary are performed with a high level of clarity.
    - B: Generally all of the criteria for an A grade are covered, but clarity is lacking; or some of the criteria for an A grade are not covered, but the criteria that are covered are performed at A level.
    - C: Generally only some of the criteria for an A grade are covered and improvements could be made with respect to clarity of the summaries and/or critical commentary.
    - D: Assignment is performed but all of the criteria for an A grade are either missing or lacking sufficient clarity.
    - F: Not enough information is presented to demonstrate understanding of the course material.

Research Design Paper

- Marking distinctions will be based on the following criteria:
    - A: Student provides a clear description of a research design that could potentially be tested with empirical data. The paper identifies a research question, provides a literature review, develops a theory, draws a hypothesis, discusses conceptualization and operationalization, describes a method for testing the relationship between variables,

and critically examines the various components, including issues of internal and external validity. The writing on all components is performed with a high level of clarity.
- B: Almost all of the criteria for an A grade are covered, but detail or clarity may be lacking; or some of the criteria for an A grade are not covered, but the criteria that are covered are performed at A level.
- C: Generally only some of the criteria for an A grade are covered and improvements could be made with respect to the clarity of the writing on the various components.
- D: Assignment is performed but all of the criteria for an A grade are either missing or lacking sufficient clarity.
- F: Not enough information is presented to demonstrate understanding of the course material.

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

The use of generative AI is permitted in this course under the following conditions:

- **Purpose of Use:** Students are discouraged from over-reliance on generative AI for generating original ideas (e.g., final paper topics). However, students are encouraged to use AI tools for improving clarity and style in English prose (e.g., editing, grammar, and structure).
- **Statement on AI Use:** In all submissions, include a section titled *"Statement on AI Use"* that explains:
  - What you used AI for (e.g., brainstorming, editing, summarizing).
  - The exact prompts you used to generate any output.
- **Accuracy and Integrity:** It is the student's responsibility to ensure the accuracy of all AI-generated content. Any hallucinations such as non-existent citations, fabricated data, or misrepresentation of

source material will be treated as a violation of academic integrity.
- **Citation Requirements:** When citing materials, you must provide exact page numbers (or sections for online sources), not just the general work. This demonstrates that you have engaged in close reading of the sources.

Communication and Feedback

Assessment marks for individual assessed tasks will be communicated via Canvas within two weeks of submission. Feedback on problem sets will include comments on why any points were deducted, as well as a model answer. Feedback on presentations and final papers will include feedback about strengths and areas for improvement. Students who have further questions about the feedback including marks should consult the instructor within five working days after the feedback is received.

Required Texts and Materials

Required readings should be completed prior to the date they are listed on the schedule. All readings will be provided through Canvas, unless available as open textbooks, in which case an URL will be provided. There is no single textbook that perfectly fits the course, and therefore no purchase is required.
The course draws on three main texts:

- King, Gary, Robert O. Keohane, and Sidney Verba. *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton University Press, 1994.
  Referred to as: KKV
- Bueno de Mesquita, Ethan, and Anthony Fowler. *Thinking Clearly with Data: A Guide to Quantitative Reasoning and Analysis*. Princeton University Press, 2021.
  Referred to as: BA
- Bhattacherjee, Anol. *Research Methods for the Social Sciences*. Open Textbook. URL: https://courses.lumenlearning.com/suny-hccc-research-methods/
  Referred to as: Bhattacherjee.

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.

Class Schedule, Topics, and Readings (Subject to Change with Notice by the Instructor)

Week 1: Introduction

- 09/02 Intro and Course Overview
- 09/04 What is social science research?

Readings: KKV chapter 1 (intro, 1.1, 1.2): pp 3–28

Optional: Rest of KKV chapter 1; Bhattacherjee chapter 3

Week 2: Research Questions

- 09/09 Descriptive inferences

Readings: KKV chapter 2 intro, 2.1, 2.2, 2.6 (pp. 34–49, 55–63)

Optional: KKV 2.7

- 09/11 NO CLASS

Week 3: Research Questions (continued)

- 09/16 Guest lecture by Warren Lu, HKUST

Readings: BA chapter 1 (pp. 1–10)

- 09/18 Correlational and causal inferences

Readings: BA chapter 2 (pp. 13—24); BA chapter 3 (pp. 37–41)

Week 4: Theory

- 09/23 Theory and models

Readings: KKV 2.3 (pp. 49–50); Lave, Charles A., and James G. March. 1975. *Introduction to Models in the Social Sciences*. New York: University Press of America. (pp. 10–20, 29–34, 40–42)

- 09/25 What makes a good theory?

Readings: Re-read KKV 1.2.2; KKV chapter 3.4, 3.5 (pp. 97–114); Bhattacherjee chapter 4

Week 5: Literature

- 09/30 Research as social enterprise
  Readings: Geddes, Barbara. 2013. "What Causes Democratization." In *The Oxford Handbook of Political Science*, edited by Robert Goodin. Oxford: Oxford University Press
- 10/02 In class activities: Literature search and review

Week 6: From Theory to Design

- 10/07 NO CLASS (Holiday)
- 10/09 Conceptualization and operationalization

Readings: Bhattacherjee chapter 6 and 7

Week 7: Research Design - Potential Outcomes Framework

- 10/14 Introduction

Readings: BA chapter 3 (pp. 41–53)

- 10/16 Threats to causal inference

Readings: BA chapter 9 (pp. 159–192)

Week 8: Comparative and Experimental Designs

- 10/21 Qualitative comparative designs

Readings: KKV chapter 6 (pp. 208–230); Panke, Diana. 2018. "How to Select Cases." In *Research Design & Method Selection: Making Good Choices in the Social Sciences*. London: SAGE Publications Ltd. (pp. 1–36) Optional: Panke (pp. 36–65)

- 10/23 Randomized experiments

Readings: BA chapter 11 (pp. 218–236)

Week 9: Non-Experimental Designs

- 10/28 Natural experiments

Readings: BA chapters 11–12 (pp. 237–265)

- 10/30 Selection on observables: Difference-in-differences, matching, regression

Readings: BA chapter 13 (pp. 266–289)

Week 10: Data Collection

- 11/04 Making use of existing data

Readings: KKV 2.4 (pp. 51–53); BA chapter 16

- 11/06 Generating your own data

Readings: Bhattacherjee chapter 8

Week 11: Analysis

- 11/11 Hypothesis testing

Readings: Learning Statistics with R, chapter 11 (from beginning to 11.6)

- 11/13 Statistical modeling

Readings: Jones, Kelvyn. 2012. "Introduction to Statistical Modelling." In *Theory and Methods in Social Research*, edited by Bridget Somekh and Cathy Lewin, 241–247. New York: Sage.

Week 12: Research spotlights

- 11/18 Research spotlights: TBD
- 11/20 Research spotlights: TBD

Week 13: Conclusion

- 11/25 Ethics and Reproducibility

Readings:

1. *Davidson, Paul. 2024. "Will AI Help or Hurt Workers' Income, Productivity?" Wall Street Journal, August 19. https://www.wsj.com/economy/wi ll-ai-help-hurt-workers-income-productivity-5928a389.*
2. *The Economist. 2025. "What the Failure of a Superstar Student Reveals about Economics." The Economist, May 22. https://www.economist.com/finance-and-economics/2025/05/22/what-the-failure-of-a-superstar-student-reveals-about-economics.*
3. *New York Times. 2014 "Professors' Research Project Stirs Political Outrage in Montana." Oct 28. https://www.nytimes.com/2014/10/29/upshot/pr ofessors-research-project-stirs-political-outrage-in-montana.html*

- 11/27 Wrap-up