

The Hong Kong University of Science and Technology  
Division of Social Science  
SOSC1990 Research Methods in Psychological Science  
Course Syllabus  
Spring Semester 2021

**Lecture Time:** Monday, Wednesday 09:00 AM – 10:20 AM

**Venue:** Zoom (link in Canvas)

**Teaching Team:**

WIJAYA, Maria T. ([mtwijaya@ust.hk](mailto:mtwijaya@ust.hk))

CHOY, Chi Ho ([choyho@ust.hk](mailto:choyho@ust.hk))

### **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**

Upon completion of this course, students are expected to be able to do the following:

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. Understand the professional ethics in the 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 behavioral phenomena and social issues.
6. Demonstrate the ability to present, discuss, and explain knowledge about psychological science with clarity.

### **Learning Activities**

1. *Lectures.* The lectures introduce research methods in psychology through a variety of activities (polls, demonstrations, videos, class discussion, etc.). They form the foundation of your learning in this course. Past studies have shown that lecture attendance and participation facilitate learning and predict course grades.
  - Lecture slides will be available on Canvas one day before each lecture. Some contents may sometimes be removed from the uploaded version; this is to encourage you to take your own notes and generate your own examples.
  - If you miss a lecture, you can access the recording on Canvas. It will be available at the latest one day after each lecture.
2. *Learning portfolio* (10%+20%, ILO#2,3): You will complete two exercises, one on ethics (10%) and another on statistical data analysis and interpretation (20%).
3. *Media review* (20%, ILO#4,5,6): You will read a media report of some scientific findings and analyze its content against the original paper.
4. *Team research proposal* (20%, ILO#1,2,4,5,6): You will work in a team of 3-4 students to propose an experimental research study. You will be asked to write a literature review on a topic of your choice, identify the research gap, formulate hypotheses, propose an experiment, and predict the results.
5. *Team presentation* (10%, ILO#1,2,4,5,6): You will present your research proposal in class as a group.

6. *Final quiz* (20%, ILO#1,2,3,4,5,6): The quiz will be in MCQ format. They will be held during lecture time in Canvas. All materials covered in the lectures are tested.  
(Detailed guidelines regarding the learning activities will be released in due course.)

### Assessment Dates and Deadlines

|                        |        |               |
|------------------------|--------|---------------|
| Ethics assignment      | 25 Feb | 12 noon       |
| Media review           | 30 Mar | 12 noon       |
| Team research proposal | 23 Apr | 12 noon       |
| Team presentation      | 28 Apr | 09:00 – 10:20 |
| Quiz                   | 05 May | 09:00 – 10:00 |
| Statistics assignment  | 17 May | 12 noon       |

### Schedule (subject to minor changes)

| Week | Date   | Lecture # | Topic   |
|------|--------|-----------|---|
| 1    | 1 Feb  |           | Introduction                                      |
| 1    | 3 Feb  | 1         | The scientific method                             |
| 2    | 8 Feb  | 2         | Finding and reading psychology research paper     |
| 2    | 10 Feb | 3         | Ethics  |
| 3    | 15 Feb |           | Public holiday                                    |
| 3    | 17 Feb | 4         | Formulating hypothesis                            |
| 4    | 22 Feb | 5         | Defining and measuring variable                   |
| 4    | 24 Feb | 6         | Sampling  |
| 5    | 1 Mar  | 7         | Qualitative method                                |
| 5    | 3 Mar  | 8         | Psychological testing                             |
| 6    | 8 Mar  | 9         | Correlational research 1                          |
| 6    | 10 Mar | 10        | Correlational research 2                          |
| 7    | 15 Mar | 11        | Experimental design 1                             |
| 7    | 17 Mar | 12        | Experimental design 2                             |
| 8    | 22 Mar | 13        | Experimental design 3                             |
| 8    | 24 Mar |           | Citation workshop and group project kick-off      |
| 9    | 29 Mar | 14        | Neuroimaging                                      |
| 9    | 31 Mar |           | Mid-term break                                    |
| 9    | 5 Apr  |           | Mid-term break                                    |
| 9    | 7 Apr  | 15        | Open science practice and cross-cultural research |
| 10   | 12 Apr | 16        | Statistics 1                                      |
| 10   | 14 Apr | 17        | Statistics 2                                      |
| 11   | 19 Apr | 18        | Statistics 3                                      |
| 11   | 21 Apr |           | R workshop group 1                                |
| 12   | 26 Apr |           | R workshop group 2                                |
| 12   | 28 Apr |           | Project presentation                              |
| 13   | 3 May  |           | Wrap-up session                                   |
| 13   | 5 May  |           | Quiz  |

### Points to Note

1. *Learning attitude*. Be active in class, ask questions, give answers. Your participation not only helps you learn more but also enables us to teach better! Think about what you want to learn and how you are going to learn them. Use grades, scores, and comments from us to understand how much and how well you have learned and how you can improve.

2. *Academic integrity.* We will thoroughly investigate every suspect case of cheating or plagiarism. We will heavily penalize confirmed cases and report them to the Head of the Division of Social Science for further review or action. Read <http://ugadmin.ust.hk/integrity/index.html>. Make sure you understand what constitutes academic honesty.
3. *Penalties.* Penalties apply to assignments that are submitted late or over the word limit. Find the details in the assignment guidelines.
4. *Make-up quiz.* Make-up quiz will be granted only to absentees with medical condition, which is supported by a medical certificate. Other requests for make-up quiz will generally not be catered to. More details will be made available in the assignment guidelines.
5. *Student feedback.* Two course feedback sessions will be conducted: a mid-term survey and the end-of-semester university SFQ. You are also encouraged to email or speak with the teaching team directly about any concerns or questions you may have about the course. We will respond to your email within 2 business days.