

SS3726: DESIGNING EXPERIMENTS IN PSYCHOLOGY

Effective Term

Semester B 2023/24

Part I Course Overview

Course Title

Designing Experiments in Psychology

Subject Code

SS - Social and Behavioural Sciences

Course Number

3726

Academic Unit

Social and Behavioural Sciences (SS)

College/School

College of Liberal Arts and Social Sciences (CH)

Course Duration

One Semester

Credit Units

3

Level

B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

SS1101 Basic Psychology; and SS2033 Research Methods for Behavioural Sciences

Precursors

Nil

Equivalent Courses

Nil

Exclusive Courses

Nil

Part II Course Details

Abstract

This course aims to inform students about methodological and design issues in planning and conducting psychological experiments. The course will walk through the steps involved in designing an experiment from planning, writing research proposal for ethical approval, selecting stimuli, doing manipulation check, writing program for data collection, and sorting and analysing pilot data. After taking this course, students should be able to design a psychological experiment on their own. Students are assumed to have basic knowledge of the scientific methods and different research designs prior to taking this course, and so SS2033 or equivalent is the prerequisite. This course focuses on hands-on laboratory skills in experimental set up, basic programming skills (e.g., e-prime, Inquisit, etc.) for creating an experiment program, and principles of using the eye tracker device in psychological experiments.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Describe the principles and control techniques in each stage of experimental design	25	x		
2	Gain knowledge in the design and planning of experiments in psychology	25	x		
3	Gain hands-on lab experience in experimental research techniques (eye-trackers, and programming experiments) and applied data analyses	50		x	x

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 real-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.

Teaching and Learning Activities (TLAs)

TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lecture	To introduce the principles and control techniques in each stage of experimental design	1, 2
2	Short discussions and in-class learning activities	To let students practice each stage of designing an experiment by designing their own experiment	1, 2
3	Lab participation	To introduce experimental set up, basic programming skills, data acquisition, applied data analysis, and eye tracker	3

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Short Assignment	1, 2, 3	15	
2	Research Proposal, Proposal Presentation, and Experiment Program	3	35	
3	Quiz	1, 2	35	
4	Lab Participation	3	15	

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)**Assessment Task**

1. Short Assignment

Criterion

Ability to evaluate experimental research methods in psychology

Excellent (A+, A, A-)

Demonstration of an excellent ability to evaluate experimental research methods and paradigms in psychology

Good (B+, B, B-)

Showing a good capability to analyse experimental research methods in psychology

Fair (C+, C, C-)

Limited capability to analyse experimental research methods in psychology

Marginal (D)

Limited familiarity with the subject issue

Failure (F)

Little evidence of familiarity with the subject issue.

Assessment Task

2. Research Proposal, Proposal Presentation, and Experiment Program

Criterion

- Quality of writing and presentation
- how well the experimental design aligns with the research questions-how well the experiment program is designed

Excellent (A+, A, A-)

- The experimental proposal is well written with appropriate experimental design for the research questions.
- The presentation is clear and organized
- the experiment program is well designed

Good (B+, B, B-)

- The experimental proposal is adequately written with appropriate experimental design for the research questions.
- The presentation is adequately clear and organized

- the experiment program is adequately designed

Fair (C+, C, C-)

- The experimental proposal is not clear and there are some flaws in the experimental design used for adjusting the research question.

- The presentation is not clear and not well-organized

- the experiment program contains minor flaws in design

Marginal (D)

- The experimental proposal is very confusing and the experiment is poorly designed.

- The presentation is not clear and is confusing

- the experiment program contains many flaws in design

Failure (F)

- The experimental proposal is very confusing and there are severe flaws in the experimental design used for adjusting the research question.

- The presentation is confusing and missing crucial content

- the experiment program is not executable with major flaws

Assessment Task

3. Quiz

Criterion

- Ability to evaluate experimental research methods in psychology

- Understanding of principle of eye tracker

Excellent (A+, A, A-)

Demonstration of an excellent ability to evaluate experimental research methods and paradigms in psychology. Excellent grasp of principles of eye tracker

Good (B+, B, B-)

Showing a good capability to analyse experimental research methods in psychology. Demonstrate reasonable understanding of principles of eye tracker

Fair (C+, C, C-)

Limited capability to analyse experimental research methods in psychology. Ability to understand the subject knowledge about principles of eye tracker in a general way.

Marginal (D)

Limited familiarity with the subject issue about principles of eye tracker.

Failure (F)

Little evidence of familiarity with the subject issue.

Assessment Task

4. Lab Participation

Criterion

- attendance of lab session

- amount of participation in lab

Excellent (A+, A, A-)

- attend all the lab session
- always ask and answer questions during lab

Good (B+, B, B-)

- attend almost all the lab session
- usually ask and answer questions during lab

Fair (C+, C, C-)

- attend half of the lab session
- seldom ask and answer questions during lab

Marginal (D)

- attend half of the lab session
- never ask or answer questions during lab

Failure (F)

- never attend lab session
- no participation at all

Part III Other Information

Keyword Syllabus

Experiments, eye tracker, control technique, programming skills

Reading List

Compulsory Readings

Title	
1	Research Methods, Design, and Analysis, 12th Edition by Larry B. Christensen, R. Burke Johnson, and Lisa A. Turner, (2014) Allyn and Bacon.

Additional Readings

Title	
1	Isaacowitz, D. M. (2005). The gaze of the optimist. <i>Personality and Social Psychology Bulletin</i> , 31(3), 407–415. https://doi.org/10.1177/0146167204271599
2	Isaacowitz DM, Choi Y. Looking, feeling, and doing: Are there age differences in attention, mood, and behavioral responses to skin cancer information? <i>Health Psychology</i> . 2012;31(5):650-659. doi: 10.1037/a0026666