



**LEAD CITY UNIVERSITY**  
**Faculty of Social and Management Sciences**  
**Department of Sociology and Psychology**

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### COURSE PARTICULARS

Course Code: PSY 313  
Course Title: Advanced Experimental Design  
No. of Units: 3  
Status: Compulsory

### LECTURER DETAILS

Name: Floretta Akingbade  
Qualifications: PhD Social Psychology  
Phone: 0803 323 4042  
Email: retta\_akingbade@yahoo.com  
Area of Specialization: Women's Response to Conflict Stereotypical Perceptions and discriminatory practices towards women; Reproductive Health Research

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### COURSE DESCRIPTION

This course focuses on advanced design and analysis of experiments. The course will address core principles in the design, conduct and analysis of experiments in psychology and in how to communicate the findings

### COURSE OBJECTIVES

To expose students to the following:

- Introduction to the discipline of Experimental Design
- Core themes in experimental Design
- To develop analytical and discussion skills

### COURSE ASSESSMENT

- Class Attendance: 5 Marks
- Tests and Assignment: 25 Marks
- Final Examination: 70 Marks

## LECTURE PLAN

Week	Topics
Week 1	The Scientific Method: An introduction
Week 2	Experimental Design
Week 3	Variables and hypotheses testing
Week 4	Control of extraneous variables
Week 5	Data collection: Types of data
Week 6	Data collection methods: Case studies, observation, interview, questionnaires
Week 7	Data collection methods: Correlational studies and other correlation coefficients
Week 8	Drawing conclusions from research
Week 9	Independent One sample $t$ Tests; Independent samples $t$ -test, Paired Sample $t$ -tests
Week 10	Mann Whitney U Test, Wicoxon Test
Week 11	Ethical considerations in psychological research
Week 12	Assessment, Revision and wrap up

## READING LIST

1. Smith, A., & Davis, F., (2013). *The Psychologist as Detective: An Introduction to Conducting Research in Psychology*. 6<sup>th</sup> Edition. Pearson
2. Miller, S., (1984). *Experimental Design and Statistics* (Second Edition), London, Routledge
3. Beer J., (1982). *Experiments in Psychology: A Workbook for Students*, London, Weidenfeld & Nicholson

## TUTORIAL QUESTIONS

1. Explain experimental psychology and the scientific method; What is a variable; Explain the following: independent variable, dependent variable; extraneous variables
2. Explain with at least two examples the Independent Groups design and advantages and disadvantages of the design
3. State five hypotheses in experimental psychology indicating the independent and dependent variables in the hypotheses
4. Explain the following in research: population, sample, convenience sample, random sample, stratified sampling
5. Explain with examples the Matched Subjects design: Discuss the advantages and disadvantages of the design
6. Define a variable citing at least four examples; What are experimental variables; Discuss four other types of variables

7. Distinguish between experimental, treatment and control groups; explain the purpose of control and experimental groups; what is the meaning of the term random allocation and why is it a necessary part of the experimental process?
8. Identify the major steps in the design and analysis of an experiment and what is involved in the analysis of results
9. Discuss citing at least two examples the Repeated Measures Design: What are the advantages and disadvantages of this design?
10. Give an in-depth explanation of ethical considerations in psychological research
11. Discuss in-depth the various steps involved in conducting an experiment citing examples
12. What are placebo and experimenter effects and how do you control for them? Distinguish between single and double blind procedures and subjective and objective data.

