SPS 2349: TESTS OF HYPOTHESES

Dr. Mutua Kilai

Department of Pure and Applied Sciences

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General Information

Instructor: Dr. Mutua Kilai	Time: 1-4Pm
Day: Friday	Place:JSM 305

- **Pre-requisites**: SPS 2320:
- **Class Policy**: Regular attendance is essential and expected.
- **Academic Honesty**: Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation.
- **Software**: R Software will be used all through.
- **Assignment Template**: To be provided as per the assignment schedule.

Course Purpose

To provide a solid and rigorous treatment of inferential problems, statistical methodologies and the underlying concepts and theory of statistical hypothesis.

Course Outcomes

At the end of this course learners should be able to:

1. Discuss the types of statistical hypothesis.
2. Demonstrate a thorough insight into the essentials of statistical inference
3. Differentiate Type I and Type II errors
4. Test the significance of the statistical inference.

COURSE DESCRIPTION

i. Simple and composite hypotheses.

ii. Concepts of a statistical test.

iii. Type I and Type II errors.

iv. Power of a test.

v. Neyman-Pearson criterion for testing simple hypotheses: most powerful and uniformly most powerful tests.

vi. Sequential test procedure.

vii. Likelihood ratio test.

COURSE DESCRIPTION CONT'D

viii. Two-sample and paired sample tests.

ix. Small and large sample tests.

x. Tests for correlation and regression.

xi. Non-parametric Tests: Sign Test, Wilcoxon Test. Kruskal-Wallis Test.

COURSE ASSESSMENT

- Written CATS 20%
- Assignment 10%
- Final Examination 70%

Course Textbooks

- RV Hogg, JW McKean and AT Craig, (2004), Introduction to Mathematical Statistics, 6th edition, Prentice Hall, ISBN: 9780130085078
- HJ Larson, (1974) Introduction to Probability Theory and Statistical Inference (Wiley Series in Probability and Mathematical Statistics). 2nd edition, Wiley, ISBN: 9780471517818
- Dennis Wackily, William Mendenhall, and Richard L. Schaeffer, (2001), Mathematical Statistics with Applications. Duxbury Publishers, ISBN: 9780534377410
- Journal of Articles in Support of the Null Hypothesis, Risen Group, ISSN: 15398714

Thank You!