

AGZ5367 Experimental Design

Level	5
Course Code	AGZ5367
Course Title	Experimental Design
Credit value	3
Core/Optional	Core (for BIS Agriculture)
Course Aim/s	To provide a foundation for students in the statistical and mathematical methods that strengthen the design and analysis of experiments
Course Learning Outcomes (CLO):	<p>After completion of this course student will be able to:</p> <p>CLO1: Critically review concepts and models in designing experiments (P11)(PO1)</p> <p>CLO2: To design experiments or select appropriate design (PO5)</p> <p>CLO3: To perform statistical analysis, interpret results intuitively, make conclusions, predictions and recommendations (PO5)(PO6)</p>
Content (Main topics, sub topics)	<p>Outline Syllabus:</p> <p>Unit 01: Experimental Design</p> <p style="padding-left: 20px;">Session 01: Basics of Experimental Design</p> <p style="padding-left: 20px;">Session 02: Analysis of Variance (ANOVA)</p> <p style="padding-left: 20px;">Session 03: Completely Randomized design (CRD)</p> <p style="padding-left: 20px;">Session 04: Randomized Complete Block Design (RCBD)</p> <p style="padding-left: 20px;">Session 05: Latin Square Design</p> <p style="padding-left: 20px;">Session 06: Mean Comparison Techniques including Orthogonal Comparisons</p> <p style="padding-left: 20px;">Session 07: Factorial Experiments and Interpretation of Interactions</p> <p style="padding-left: 20px;">Session08: Split-plot Design</p> <p style="padding-left: 20px;">Session09: Nested Factorial Experiments</p> <p style="padding-left: 20px;">Session 10: Introduction to Advanced Topics</p>

Unit 02: Survey Design and Analysis

Session 11: Introduction to Surveys

Session 12: Simple Random Sampling

Session 13: Stratified Random Sampling

Session 14: Other Sampling Techniques

Session 15: Sample Size Determination and Allocation

Session 16: Construction of Questionnaires

Session 17: Survey Data and Management (Excel & SPSS)

Session 18: Analysis of Ordinal Data

Session 19: Analysis of Counts and Log Linear Models

Session 20: Analysis of Binary Data

Laboratory Work:

1. Computer based assignments