Type/Status : Core

Course Code **: SOST 42424**

Title **: Experimental Designs**

Learning Outcomes : On completion of this course unit students should be able to

- Translate an experimental description into a statistical model, including identify model restriction and assumptions.
- Develop appropriate hypothesis test and statistical comparisons for experimental design.
- Analyze experiments in the presence of common difficulties, including missing and unbalanced data.

Course Content:

- Introduction
- Terminology of experimental design
- Principles of experimental design
- Analysis of variance
- Completely randomized design
- Randomized block design
- Latin square design
- Analysis of covariance
- Missing plot techniques
- Factorial experiments
- Split –Plot design
- Balanced incomplete block design.

Methods of teaching and learning: lectures, tutorials and assignments

Assessment scheme:

Mid semester test/assignment	30%
Semester end examination	70%

Recommended reading:

Abderson V.L and Mclean R.A. (1974). *Designs of Experiments,* Mercel Dekker Inc.

Cox D.R. (1958). *Planning of Experiments,* John Wiley Sons, New York

Gupta, S.C. and Kapoor, V.K. (2007). *Experimental of Applied Statistic,* 4th Edition,Sultan Chand
and Sons, New Delhi.