



Course No.	Course Title	Theory	Practice	Credit	Prerequisite(s)
Stat 436	Medical Statistics	3	-	3	Stat 335

### Objectives

To introduce new statistical techniques which are used commonly in Medical Applications.

### Course Description:

- **Basic concepts and designs:** controlled and uncontrolled clinical trials; historical controls; randomization; protocol deviations.
- **Size of trials.**
- **Multiplicity and meta-analysis:** interim analyses; multi-centre trials; combining trials.
- **Cross-over trials.**
- **Binary response data:** logistic regression modeling; McNemar's test, relative risks, odds ratios.
- **Survival Data Analysis**
- **Basic concepts:** survivor function; hazard function; censoring.
- **Single sample methods:** lifetables; Kaplan-Meier survival curve; parametric models.
- **Two sample methods:** log-rank test; parametric comparisons.
- **Regression models:** inclusion of covariates; Cox's proportional hazards model; competing risks.

### Main text books:

Altman, D.G. (1991) *Practical Statistics for Medical Research*, Chapman & Hall.

### Subsidiary books:

Matthews, J.N.S. (2000). *An Introduction to Randomized Controlled Clinical Trials*, Arnold.