

I – Academic Planner

A. Teaching Plan (Year: 2017, Semester: EVEN SEM-JAN to APR.)

Teacher's Name DR. VANDANA SARIN WALIA Department STATISTICS

S. No.	UPC	Paper Name	Core/AEC C/GE/SEC	Topic/Unit	Start Date	End Date
1.	237602	Design of Experiments	STH-C-602	Experimental designs: Role, historical perspective, terminology, experimental error, basic principles, uniformity trials, fertility contour maps, choice of size and shape of plots and blocks.	Week 1-	2
				Basic designs: Completely Randomized Design (CRD), Randomized Block Design (RBD), Latin Square Design (LSD) – layout, model and statistical analysis, relative efficiency, analysis with missing observations. Incomplete Practical work	Week 2-	4
				Block Designs: Balanced Incomplete Block Design (BIBD) – parameters, relationships among its parameters, incidence matrix and its properties, Symmetric BIBD, Resolvable BIBD, Affine Resolvable BIBD, Intra Block analysis, complimentary BIBD, Residual BIBD, Dual BIBD, Derived BIBD. Practical work.	Week 5	7
				Factorial experiments: advantages, notations and concepts, 2^2 , 2^3 ... 2^n and 3^2 factorial experiments, design and analysis, Total and Partial confounding for 2^n ($n \leq 5$), 3^2 and 3^3 . Factorial experiments in a single replicate. Practical work.	Week 8	11
				Fractional factorial experiments: Construction of one-half and one-quarter fractions of 2^n ($n \leq 5$) factorial experiments, Alias structure, Resolution of a design Practical work.	Week 12-	13
2.	3231402	Linear Models	STAT-C-402	Theory of linear estimation, Estimable linear parametric functions, Method of least squares, Gauss-Markov theorem, Estimation of error variance. Distribution of quadratic forms. Practical work	Week 1-	4
				Definition of fixed, random and mixed effect models, analysis of variance and covariance in one-way classified data for fixed effect models, analysis of variance in two-way classified data with equal number of observations per cell for fixed effect models. Practical work	Week 5-	7
				Simple Regression analysis, Estimation and hypothesis testing in case of simple and multiple regression analysis, Confidence intervals and Prediction intervals, Concept of model matrix and its use in estimation. Effect of orthogonal columns in the X matrix, Partial F-test and Sequential F-test, Bias in regression estimates. Practical work	Week 8-	10
				Prediction from a fitted model, Residuals and Outliers, Lack of fit and pure error, Violation of usual assumptions concerning normality, Homoscedasticity and collinearity, Diagnostics using quantile-quantile plots. Practical work	Week 11-	13

B. Internal Assessment: House Exam (Test/Presentation etc.) & Assignment*

Course Code	Course Name	Unique Paper Code	Topic Name	Day and Date	Date/s of Exhibiting the Assessment Sheet to students, Discussing the marks, Returning/Retaining
568	Statistics	237602	UNIT I	1 st week of Feb. 2017	NA
568	Statistics		UNIT I-IV (Assignment)	3 rd week of Feb. 2017	NA
568	Statistics		UNIT I-IV (Project)	1 st week of May 2017	NA
568	Statistics	3231402	UNIT I-II	1 st week of Feb. 2017	NA
568	Statistics		UNIT I-IV (Assignment)	3 rd week of Feb. 2017	NA
568	Statistics		UNIT I-IV (Project)	1 st week of May 2017	NA

*Marks of the Internal Assessment to be submitted to the College 15 days before the last working day of every semester