



SYMBIOSIS INTERNATIONAL (DEEMED UNIVERSITY)

(Established under section 3 of the UGC Act 1956)

Re - accredited by NAAC with 'A' Grade

Founder: Prof. Dr. S. B. Mujumdar, M.Sc., Ph.D. (Awarded Padma Bhushan and Padma Shri by President of India)

(Established under section 3 of the UGC Act 1956, by notification No.F.9-12/2001-U3
Government of India)

Sub Committee - Specialization for Curriculum Development (QS & A)

Post Graduate/ Under Graduate

Course Name: Business Statistics

Course Code: T2216

(UG/PG): PG

Number of Credits: 2

Course No. QS&A P 3

Level: 4

Learning Objective(s):

1. To enable students to present, analyze and interpret data.
2. To enable students to use concepts of probability in business situations.
3. To enable students to make inferences from samples drawn from large datasets.
4. To enable students to apply univariate and multivariate statistical techniques.

Pedagogy:

1. Classroom lectures and laboratory sessions

Pre-learning: Foundation course in Statistics

Course outline:

Sr. No.	Topic	Hours
1	The need for statistics and probability theory. Basic descriptive statistics. Populations and samples – the need for inference tools. Mean, variance and standard deviation for populations and samples. Measures of location and dispersion. Graphical depictions of data. Frequency graphs, histograms, scatter-plots. Using software to explore data.	3
2	The correlation coefficient. The normal distribution, Standard scores. Bivariate data. Interpretation of the Pearson correlation coefficient. The ubiquity of the normal distribution. z-scores and their use. Chebyshev's theorem and it's comparison with the normal distribution.	3
3	Introduction to linear regression. Fitting a linear model to data. Interpretation of the regression coefficients.	2
4	Introduction to multiple regression models. Using statistical software to build regression models. The principle of parsimony and the need for probability theory.	3
5	Probability theory. Basic definitions and basic probability models. Basic ideas of probability theory. Rules for calculating probabilities. Mutually exclusive and independent events. Joint, marginal and conditional probabilities. Baye's theorem. The binomial distribution. Probabilities for the normal distribution.	3
6	Sampling theory. Parameters and statistics. The sampling distribution. The Central Limit Theorem. Probabilities for the sampling distribution.	2
7	Estimation: point and interval. Confidence intervals and their use.	2
8	The hypothesis testing framework. t-tests Type I and Type II errors. Power of a test. Hypothesis testing using the normal distribution. The t-distribution. One sample, paired and independent samples t-tests. Lab session with software.	4
9	ANOVA The need for a new technique to compare means of multiple groups. The omnibus hypothesis and post-hoc tests. The ANOVA table. ANOVA using software.	4
10	Non-parametric tests. Chi-square tests. Cross tabulations. The need for non-parametric tests. Wilcoxon and Mann-Whitney tests. Lab session with software.	4

Books Recommended

- 1) Anderson, Sweeney and Williams, “Statistics for Business and Economics”, Cengage Learning, 2001(11e)

2) Levin and Rubin, "Statistics for Management", Prentice-Hall, 2007

Suggested Evaluation Methods: Written tests & evaluation using statistical software

Parallel/Similar courses the existing curriculum:

S.No.	Name of the course	Institute where it was offered
1	Business Statistics	SCMHRD, SIIB, SIOM, SSBM, SCIT, SIBM - P,

Name of Member	Ravi Kulkarni	Trupti Bhosale			
Designation	Professor	Asst. Prof.			
Org. / Inst.	SCMHRD	SSBM			
Signature					

Name of the Expert: Prof. Asmita Chitnis

Signature:

Date:

Benchmarks:

Cornell University

<http://forum.johnson.cornell.edu/faculty/mcclain/StatsAMBA/>

Wharton School of Management

<http://www-stat.wharton.upenn.edu/~waterman/Teaching/smmdIs03/Syllabus/Syllabus.html>