INTRODUCTORY STATISTICS WITH R (SY306C)

DEPARTMENT OF MANAGEMENT, BENGALURU CAMPUS

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INSTRUCTOR AND CONTACT INFORMATION

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COURSE OBJECTIVE

To introduce a number of basic concepts and techniques that should allow the students to get started with practical statistics using R and it may help them to work in the areas of business analytics and research.

LEARNING OUTCOMES

The course covers a reasonable curriculum in the statistical methods for management and basics of R. At the end of the course the student should be able to

- 1. Use statistical methods for managerial decision making
- 2. Analyze datasets and create charts and business reports
- 3. Use the most powerful software for computational statistics called R

COURSE DESCRIPTION

The course is application oriented and most of the exercises have to be done with real time data. During the course most of the statistical concepts learned in the previous trimesters will be revised and applied using real time data. Various capabilities of R environment and statistical programming using R will be introduced in a step by step manner.

REQUIRED COURSE MATERIALS AND READINGS

1. Introductory Statistics with R by Peter Dalgaard, (2008), Second Edition, Springer, ISSN:1431-8784, ISBN: 978-0-387-79053-4

2. An Introduction to R: Notes on R: A Programming Environment for Data Analysis and Graphics Version 3.2.0 Under development (2015-01-10) Available at http://cran.r-project.org/

OPTIONAL COURSE MATERIALS & READINGS (CASES, ARTICLES, REPORTS ETC)

Statistics for Management by Richard I. Levin and David S. Rubin, (2008), Seventh Edition, Dorling Kindersley Pvt LtdISBN-10: 8177585843,ISBN-13: 978-8177585841

Applied Regression Analysis and Other Multivariable Methods, by David G. Kleinbaum, Lawrence L. Kupper ,Azhar Nizam and Eli S. Rosenberg, (2013), Fifth Edition, Cengage Learning, ISBN-13: 978-1285051086 ISBN-10: 1285051084

EVALUATION CRITERIA

Assignments, Midterm and End Term examinations

Components and Weights (faculty can Decide on components

Components	**Weightage (%)**
Assignments	30%
Mid term	30%
End term	40%
Total	**100%**

DETAILS OF SESSION: TENTATIVE COURSE SCHEDULE

WEEK	SESSION NO.	TOPICS TO BE COVERED	ASSIGNED READING, CASE DISCUSSION, ASSIGNMENTS
Week 1	Session 1 to 4	Introduction to R	Chapter.1 Basics Chapter.2 R Environment
Week 2 to 3	Session 5	Probability and Distributions	Chapter.3
Week 4 to 5	Session 6 and 7	Descriptive statistics and Graphics	Chapter.4
Week 6to7	Session 8 and 9	One and Two Sample Tests	Chapter.5
Week 7to 8	Session 10 and 11	Regression and Correlations	Chapter.6
Week 9 to 10	Session 12 and 13	Analysis of Variances and Kruskal-Wallis Test	Chapter.7
Week 11 to 12	Session 14	Tabular Data	Chapter.8
Week 13	Session 15 and 16	Power and the Computation of Sample Size	Chapter.9
Week 14	Session 17 and 18	Advanced Data Handling	Chapter.10
Week 15	Session 19 to24	Advanced Statistical Models	Chapter.11 to 16

ANY OTHER SPECIFIC RULES

Students have to bring their laptops installed with R and R Studio. Download R from http://cran.r-project.org/ and R Studio from http://www.rstudio.com/products/rstudio/download/

Sharing computers are not allowed. They should make their own arrangement for charging the laptops.