## Discipline Specific Elective Course- 8.9 (DSE-8.9): Advanced Business Research

### CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

| Course title & Code | Credits | Credit distribution of the course | | | Eligibility criteria | Pre-requisite of the course (if any) |
|---|---|---|---|---|---|---|
| | | Lecture | Tutorial | Practical/ Practice | | |
| **Advanced Business Research: DSE-8.9** | **4** | **3** | **0** | **1** | **Pass in Class XII with Mathematics/Accountancy** | **Studied DSE-6.6 Business Research Methodology/ DSE - 7.1 Business Research Methodology** |

### ADVANCED BUSINESS RESEARCH

### BCH: DSE- 8.9

**Learning Objectives:**

The objective of the course is to develop the students' theoretical and practical understanding of select multivariate research methods and central concepts of psychological measurement and analysis. The course will be a practice-oriented course and will provide working knowledge of the advance research using statistical package and open-source ware.

**Learning Outcomes:** After completion of the course, learners will be able to:

1. Apply bivariate and multivariate statistics on the data.
2. Comprehend various types of regressions and its applications.
3. Employ General Linear Models on the variables.
4. Utilize time-series data and panel data techniques for data analysis
5. Fathom the application of longitudinal and Experimental Studies.

**Course Contents:**

**Unit 1: Bi-variate and Multivariate Analysis (9 hours)**

Correlation analysis, Partial correlation, Simple regression and multiple regression, its assumptions, concept of multicollinearity: Variance Inflation Factor (VIF), R-square, Adjusted R-square, Durbin-Watson Statistic, Stepwise Regression

**Unit 2: Logistic Regression (12 hours)**

Binary Logistic Regression: Introduction, estimation, Model fit and Evaluation; Ordinal Logistic Regression: meaning, assumption and estimation: Multinomial Logistic Regression: Concept, Model evaluation, Interpretation; Log-linear Models: Basics, Model specification, measurement and interpretation.

**Unit 3: General Linear Model (12 hours)**

Two-way analysis of variance (Anova): Key concepts, assumptions, estimation and interpretations; Repeat measure Anova: meaning, assumptions, design types, Post hoc tests; One- and Two-way analysis of covariance (ANCOVA): Basic concept and terms, assumptions, calculation and interpretation; Multivariate analysis of variance (MANOVA): Introduction, assumptions, and estimation

**Unit 4: Longitudinal Studies and Experimental Design Analysis (12 hours)**

Longitudinal Studies: Definition and Characteristics, types, data collection techniques, Issues and considerations; Manipulation: Concept, types of manipulation, manipulation check; Experimental and control groups, Mediation and Moderation analysis: Concept, steps, measurement and interpretation; Formulating experimental Design: basic elements, types of experimental designs, Internal and external validity.

**Note: The General-Purpose software referred in this course will be notified by the University - Departments every three years.**

**Practical Exercises (30 Hours):**

**The learners are required to:**

1. Perform multiple regression using appropriate software.
2. Perform logistics regression analysis using appropriate software.
3. Perform various General linear models using appropriate software.
4. Perform time-series analysis using appropriate software.
5. Analyse the applicability of longitudinal studies and experimental design analysis.

**Suggested Readings:**


- DeVellis, R.F (1991). Scale Development: Theory and Applications, Newbury park, California: Sage.
- Hair, Black, Babin, Anderson and Tatham (2017). Multivariate Data Analysis, 7e Pearson education India. ISBN – 13 9789332536500
- Field, A. (2018). Discovering statistics using IBM SPSS statistics (5th ed.). Sage Publications.
- Tabachnick, B. G., & Fidell, L. S. (2019). Using multivariate statistics (7th ed.). Pearson Education.
- Gujarati, D. N., & Porter, D. C. (2021). Basic econometrics (5th ed.). McGraw Hill.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). Experimental and quasi-experimental designs for generalized causal inference. Houghton Mifflin.
- Baltagi, B. H. (2021). Econometric analysis of panel data (6th ed.). Springer.
- Maxwell, S. E., & Delaney, H. D. (2004). Designing experiments and analyzing data: A model comparison perspective (2nd ed.). Psychology Press.
- Menard, S. (2007). Handbook of longitudinal research: Design, measurement, and analysis. Elsevier.
- Surya, P.K., Sharma, S.K. (2020), Business Research Methods and Analytics, Virtual book. Taxmann publication. ISBN 9789390712717
- Viswanathan, M. (2005). Measurement Error and Research Design. Thousand Oaks: Sage.

- William G. Zikmund/Barry J. Babin/Jon C Carr/Mitch Griffin (2013). Business Research Methods, Cengage publication, 8th edition.
- Malhotra, N. K., & Dash, S. (2016). Marketing research: An applied orientation (7th ed., Indian adaptation). Pearson Education.
- Kothari, C. R., & Garg, G. (2019). Research methodology: Methods and techniques (4th ed.). New Age International.


**Note: Suggested readings will be updated by the Department of Commerce and uploaded on Department's website.**