

**SEMESTER –VII
(BBA (Honours with
Research))**

Model curriculum for UG Degree in BBA

SEMESTER –VII (BBA (Honours with Research))

CC 701	Advanced Data Analysis Tools	2L:0T:4P	4 Credits
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Course Description: Advanced Data Analysis Tools is designed to equip students with sophisticated skills in data analysis to enhance decision-making in business. The course emphasizes the practical application of statistical software for data manipulation, statistical modeling, machine learning, and effective communication of data insights.

Course Objectives:

1. To introduce advanced data analysis tools and techniques used in business decision-making.
2. To develop proficiency in using statistical software for comprehensive data analysis, including manipulation, interpretation, and visualization.
3. To explore the application of these tools in addressing real-world business challenges through hands-on exercises.

Unit Descriptions:

Unit 1: Data Handling and Statistical Foundations

This unit introduces the fundamentals of data analysis, including an overview of statistical software tools, data handling, and basic operations. It covers data importing, cleaning, and initial data exploration techniques, setting a strong foundation for further analysis.

Unit 2: Statistical Analysis and Modeling

Focuses on advanced statistical methods, including descriptive and inferential statistics, regression analysis, and forecasting techniques. Students will engage in hypothesis testing and time series analysis, using these methods to derive meaningful insights from complex datasets.

Unit 3: Machine Learning and Advanced Analytical Techniques

Introduces basic and advanced machine learning algorithms relevant to business analytics. This unit covers decision trees, clustering, neural networks, and the fundamentals of deep learning, with a focus on their practical application in predictive analytics and data-driven decision-making.

Unit 4: Visualization, Reporting, and Ethical Considerations

Emphasizes the importance of effective data presentation through visualizations and interactive dashboards using tools like Tableau and Power BI. This unit also addresses the ethical considerations in data analysis and the preparation of comprehensive reports and presentations to communicate insights clearly to stakeholders.

Suggested Pedagogy:

The course adopts a blend of interactive lectures, practical labs, and project-based learning to facilitate an engaging and comprehensive learning experience. Real-world datasets are employed extensively to allow students to apply theoretical concepts in practical scenarios, bridging the gap between classroom learning and business application.

Optional Practical Component:

An optional practical can be developed for students who wish to explore open-source statistical software for conducting independent and complex data analyses.

Research Reading:

Raji, M. A., Olodo, H. B., Oke, T. T., Addy, W. A., Ofodile, O. C., & Oyewole, A. T. (2024). Real-time data analytics in retail: A review of USA and global practices. *GSC Advanced Research and Reviews*, 18(3), 059-065.

Textbooks (Latest Edition):

1. *Discovering Statistics Using IBM SPSS Statistics* by Andy Field, 5th ed., Sage.
2. *An Introduction to Statistical Learning with Applications* by James, Witten, Hastie, & Tibshirani, 2nd ed., Springer.
3. *Data Science with Artificial Intelligence, Machine Learning and Deep Learning* by Rajiv Chopra, Khanna Book Publishing.

Course Outcomes:

- Proficiency in using advanced statistical tools for data analysis.
- Ability to apply comprehensive data analysis techniques to enhance business decision-making.
- Skills to effectively interpret and present data insights to stakeholders.
- Awareness of ethical considerations in data analysis.

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CC 702	Advanced Research Methodology	2L:0T:4P	4 Credits
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Course Description: Advanced Research Methodology builds upon foundational knowledge, delving into sophisticated research design and methodologies tailored for business contexts. This course explores complex qualitative and quantitative research techniques and integrates contemporary issues such as big data and artificial intelligence into the curriculum. Emphasizing ethical considerations and the practical application of research tools, the course equips students with the necessary skills to conduct high-quality research, write scholarly articles, and develop grant proposals.

Course Objectives:

1. Enhance understanding of advanced research designs and methodologies beyond the foundational level.
2. Develop proficiency in qualitative and quantitative data analysis techniques using advanced software tools.
3. Explore contemporary issues and innovations in research methodology relevant to business studies.

Course Contents:

Unit 1: Advanced Research Frameworks

This unit covers advanced research frameworks, examining research philosophy, inquiry, ontology, epistemology, and paradigms. It includes discussions on refining quantitative, qualitative, and mixed methods approaches and explores specialized research designs both experimental and non-experimental designs such as longitudinal, cross-sectional, and factorial design, latin square design, randomize group design providing a foundation for advanced research questions/inquiry.

Unit 2: Advanced Data Analysis Techniques

The focus of this unit is on advanced data analysis techniques. It encompasses qualitative methods like ethnography and phenomenology, alongside advanced quantitative approaches including multivariate analysis and structural equation modelling. This unit also introduces the use of sophisticated data analysis software such as computer enabled qualitative and context analysis (example NVivo and ATLAS.ti, PLSEM), enhancing students' analytical skills.

Unit 3: Contemporary Issues in Research

This unit engages students with contemporary issues in research, addressing the impact of big data and analytics, and the incorporation of artificial intelligence into research

methodologies. It also covers the ethical considerations crucial to modern research practices and the transformative role of technologies like virtual reality and augmented reality in business research.

Unit 4: Application and Ethics

In this unit, students apply research methods to real-world scenarios, exploring the ethical challenges in conducting research. The unit guides students in preparing scholarly articles, grant proposals, and comprehensive research reports, emphasizing the practical application of research skills and ethical considerations in documentation and reporting.

Case/Exercises:

- Behavioral Experiment (A), (B), (C) by Elena Reutskaja - <https://hbsp.harvard.edu/product/IES916-PDF-ENG>
- Focus Groups (A), (B) by Elena Reutskaja - <https://hbsp.harvard.edu/product/IES922-PDF-ENG>
- In-depth Interviews (A), (B) by Elena Reutskaja - <https://hbsp.harvard.edu/product/IES918-PDF-ENG>

Research Paper Reading:

Pereira, L. F. (2023). Business research methods: systematic literature review. *International Journal of Management Concepts and Philosophy*, 16(2), 145-159.

Textbooks:

1. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, by Creswell, J. W. & Creswell, J. D.
2. *Multivariate Data Analysis*, by Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E.

Pedagogy:

The course utilizes a combination of interactive lectures, hands-on lab sessions, collaborative projects, and case studies to provide an engaging and comprehensive learning experience. It integrates real-world scenarios and current research challenges into classroom discussions to effectively bridge theoretical knowledge with practical application.

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Course Outcomes:

- Mastery of advanced research methodologies applicable in diverse business contexts.
- Skilled in ethical application and critical analysis of research data.
- Proficient in publishing research findings and drafting comprehensive grant proposals.
