Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical / Practice		
Business Intelligence and Advance Data Analytics (DSE)	**4**	**3**	**1**	**0**	**Class XII pass**	**Programming languages and Artificial intelligence**

Learning Objectives

Data analytics and business intelligence (BI) are of great importance in today's world. Data analysis is required to understand organisational problems and to explore data. At the same time, business intelligence helps companies make better decisions by showing current and historical data within their business context. Course aims of leveraging Data Analysis and Business Intelligence skills to help understand trends and derive actionable insights from data, thus allowing us to make data-driven, strategic and tactical business decisions.

Keywords: Data Analytics, Machine Learning, Management, Social Media, Business Intelligence

Learning Outcomes

- Develops business analytics foundation through machine learning for data analysis.
- the students will be able to enhance their skills in data analysis, python programming for machine learning and Python/ R programming for statistical methods.
- They will also be able to find answers to the questions they don't know the answers to.
- will help them to adapt themselves to the automated future of business intelligence.

SYLLABUS

Unit I: Fundamentals of Data and Analytics Overview of data types, sources, and collection methods for business applications, Basics of data analytics: descriptive, diagnostic, predictive, and prescriptive analytics, Role of data in driving business intelligence and decision-making.
(9 hours)
Unit II: Machine Learning for Business Intelligence: Introduction to machine learning concepts and algorithms for business, Building predictive and classification models for business decision support, Applications of machine learning in forecasting, optimization, and customer insights.
(15 hours)
Unit III: Data Analytics for Business Functions: Applications in product strategy, sales, marketing, and consumer behaviour analysis, Financial decision-making using advanced data analytics techniques, Leveraging analytics to optimize pricing, segmentation, and customer experience. (9 hours)

Unit IV: Advanced Applications of Business Analytics: Data analytics for digital and social media strategy, including content optimization, Innovation and entrepreneurship supported by analytics-driven insights, Operational analytics for supply chain management, logistics, and resource allocation. (9 hours)

Essential/recommended readings

1. Sherman, R. (2014). Business intelligence guidebook: From data integration to analytics. Newnes.
2. Negash, S., & Gray, P. (2008). Business intelligence. *Handbook on decision support systems 2*, 175-193.
3. Moss, L. T., & Atre, S. (2003). Business intelligence roadmap: the complete project lifecycle for decision-support applications. Addison-Wesley Professional.
4. Chaudhuri, S., Dayal, U., & Narasayya, V. (2011). An overview of business intelligence technology. *Communications of the ACM*, *54*(8), 88-98.
5. Minelli, M., Chambers, M., & Dhiraj, A. (2013). *Big data, big analytics: emerging business intelligence and analytic trends for today's businesses* (Vol. 578). John Wiley & Sons.

DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE):

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		
Natural Language Processing (DSE)	**4**	**3**	**1**	**0**	**Class XII pass**	**Database management system and Artificial intelligence**

Learning Objectives

This course objective is to train students in advanced understanding of NLP, Deep learning approaches and their implementation. In addition, the course introduces deep learning frameworks such as TensorFlow and solves real-world problems through projects on sentiment analysis, sentence classification, and speech recognition.

Learning outcomes

After completing this course, students should be able to;

- Will have a deep and advanced understanding of Natural Language Processing concepts.
- Will have experiment-level knowledge of Deep learning approaches.