



AMITY UNIVERSITY

UTTAR PRADESH

Course Title: Big Data Analytics

Course Level: UG
Course Code:IT424

Credit Units:

L	T	P/S	SW/F W	TOTAL CREDIT UNITS
3	1	-	-	4

Course Objectives:

- Approach business problems data-analytically by identifying opportunities to derive business value from data.
- Know the basics of data mining techniques and how they can be applied to extract relevant business intelligence

Pre-requisites: Understanding of basic concepts of Database Management System and Algorithms and Data Structures

Course Contents/Syllabus:

	Weightage (%)
Module I Introduction to Big Data Analytics	15%
Big Data overview, State of the practice in analytics role of data scientists, Big Data Analytics in industry verticals.	
Module II Data Analytics Life Cycle & Methodology	15%
Key roles for successful analytic project, main phases of life cycle, Developing core deliverables for stakeholder.	
Module III Basic Analytics Method	30%
Introduction to “R”, analyzing and exploring data with “R”, statistics for model building and evaluation.	
Module IV Advanced Analytics and Statistical modeling for Big Data	20%
Naïve Bayseian Classifier, K-means Clustering, Association Rules, Decision Trees, Linear and Logistic Regression, Time Series Analysis, Text Analytics.	
Module V Unstructured Data Analytics	20%
Technologies and tools MapReduce/Hadoop, In- database Analytics, MADlib and Advanced SQL Tools.	

Student Learning Outcomes:

- Deploy the Data Analytics Lifecycle to address big data analytics projects
- Apply appropriate analytic techniques and tools to analyze big data, create statistical models, and identify insights that can lead to actionable results
- Select appropriate data visualizations to clearly communicate analytic insights to business sponsors and analytic audiences.

- Use tools such as: R and RStudio, MapReduce/Hadoop, in-database analytics, Window and MADlib functions
- Explain how advanced analytics can be leveraged to create competitive advantage and how the data scientist role and skills differ from those of a Traditional business intelligence analyst. Extract patterns to solve problems, make predictions of outcomes
- Apply and analyze data mining for Business Intelligence Application.

Pedagogy for Course Delivery:

Subject will be taught on the basis of lectures, concepts learn in the classroom using various real life situations and discussing case study covering different module related to Big data tools and techniques for betterment of business.

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	Total
100 %	NA	100 %

Theory Assessment (L&T):

Continuous Assessment/Internal Assessment					
Components (Drop down)	Mid Term Exam	Home Assignment	Presentation/ Viva	Attendance	End Term Examination
Weightage (%)	10%	8%	7%	5%	70%

Text & References:

- Noreen Burlingame, “The little book on Big Data”, New Street publishers, 2012.
- Norman Matloff, “The Art of R Programming: A Tour of Statistical Software Design”, No Starch Press 1 edition, 2011.