Ahmedabad University

Course	CSE521 Big Data Analytics	Semester	Monsoon Semester 2024
Faculty Name(s)	Rupsa Bhowmick	Contact	rupsa.bhowmick@ahduni.edu.in
School	SEAS	Credits	3
GER Category:	Not Applicable	Teaching Pedagogy Enable:NO	P/NP Course: Can not be taken as P/NP

Schedule

Section 1	04:00 pm to 05:30 pm	Tue	01-08-24 to 26-11-24
	04:00 pm to 05:30 pm	Thu	01-08-24 to 26-11-24

Prerequisite	CSC520 Data Analytics and Visualisation/CSE520 Data Analytics and Visualisation & EVD511 High Performance Computing/ECE503 High Performance Computing
Antirequisite	Not Applicable
Corequisite	Not Applicable
Course Description	The explosion of social media and the computerization of every aspect of social and economic activity resulted in creation of large volumes of mostly unstructured data: web logs, videos, speech recordings, photographs, e-mails, Tweets, and similar. In a parallel development, computers keep getting ever more powerful and storage ever cheaper. Today, we have the ability to reliably and cheaply store huge volumes of data, efficiently analyze them, and extract business and socially relevant information. The key objective of this course is to familiarize the students with most important information technologies used in manipulating, storing, and analyzing big data.

Course Objectives	Understand the key issues in big data management and its associated applications in intelligent business and scientific computing. Acquire fundamental enabling techniques and scalable algorithms like Hadoop, Map Reduce and NO SQL in big data analytics. Interpret business models and scientific computing paradigms and apply software tools for big data analytics. Achieve adequate perspectives of big data analytics in various applications like recommender systems and social media applications. Evaluate and apply appropriate principles, techniques and theories to large-scale data science problems using various databases with analytics and visualizations.
Learning Outcomes	• Identify Big Data and its Business Implications. • List the components of Hadoop and Hadoop Eco-System • HBASE, HIVE, and PIG • Real-time execution of Big Data using Spark • Access and Process Data on Distributed File System • usage of NoSQL databases
Pedagogy	• At the start of the course, the course delivery pattern, prerequisite of the subject will be discussed. • Lectures will be conducted with the aid of multi-media presentations in online mode. • Attendance is compulsory in lectures. • 20 Marks for Continuous evaluation/Mid-sem, 20 Marks for class presentation/ consistency/ attendance, and 10 Marks for online course/quiz. • The course may include an additional laboratory, where students have an opportunity to build an appreciation for the concepts being taught in lectures.
Expectation From Students	Regular and active participation in course activities like working out problems for the class, discussing problems posed in the class, do the reading as suggested in the assignments.

Assessment/Evaluation	• End Semester Examination:
	  ◦ Written - 50%
	• Other Components:
	  ◦ Quiz - 25%
	  ◦ Practical - 25%

Attendance Policy	As per Ahmedabad University Policy.

Project / Assignment Details	
Course Material	
Additional Information	

Session Plan

NO.	TOPIC TITLE	TOPIC & SUBTOPIC DETAILS	READINGS,CASES,ETC.	ACTIVITIES	IMPORTANT DATES