



Big Data Analytics

Course Description:

In this course, students will get an introduction to working with Big Data and fundamental concepts, such as data mining and stream processing and technologies for Big Data scenarios. Students participating in this course will learn various data genres and the management tools appropriate for each. Such as how big data drives organizational change, the key challenges organizations face when analyzing massive data sets, and the reasons behind the evolving plethora of new big data platforms from the perspective of big data management systems and analytical tools. By the end of this course Students will become familiar with techniques using real-time and semi-structured data examples, techniques to extract value from existing untapped data sources and discovering new data sources, and will have a better understanding of the various applications of big data methods in industry and research.

Course Outline:

Introduction to Data Analytics for Business

Introduction to Big Data

Python Programming Language

Business Analytics for Decision Making

Big Data Modeling and Management Systems

Course Outcomes:

At the end of the course the student will be able to:

- To gather and accumulate data from disparate sources, clean it, organize it, process it, and analyze it to extract valuable insights and information.
- To identify new sources of data and develop methods to improve data mining, analysis, and reporting.
- To write SQL queries to extract data from the data warehouse.
- To create data definitions for new database files or alterations made to the already existing ones for analysis purposes.



- To present the findings in reports (in table, chart, or graph format) to help the management team in the decision-making process.
- To develop relational databases for sourcing and collecting data.
- To monitor the performance of data mining systems and fix issues, if any.
- To apply statistical analysis methods for consumer data research and analysis purposes.
- To keep track of the trends and correlational patterns among complex data sets.
- To perform routine analysis tasks to support day-to-day business functioning and decision making.
- To collaborate with Data Scientists to develop innovative analytical tools.
- To work in close collaboration with both the IT team and the business management team to accomplish company goals.

Career Opportunities

Graduates of this certificate program will be able to start their career with entry-level positions in medium to large-sized companies as an:

- Data analyst
- Big data visualizer
- Big data engineer
- Database administrator
- Business system analyst
- Business data analyst

Course Duration:

180 Hours