

Data Science

Overview





STEM & Technology



Business Analytics



University



7 sessions

ABOUT

Students will learn the essentials of data science, including its fundamental concepts and various data types, along with its critical role in business decision-making and strategy, especially in the MENA region. The curriculum emphasizes the importance of data literacy and skills development for modern employability, highlighting how data science can drive innovation and competitive advantage in entrepreneurship. The course also explores diverse career opportunities within the field, underscoring the importance of ethical considerations, and familiarizes students with key data science tools and technologies for analysis and visualization.

SESSION STRUCTURE

- 1 Introduction to Data Science:** Students will learn about data as the foundation for decision-making and data science as a field combining statistics, mathematics, and computer science. They will explore the data science lifecycle, the role of data scientists, and the benefits of tools.
- 2 Data Is The New Oil:** Learners will discover how data is integral to daily life, exploring various types and their applications. The section also highlights the importance of data privacy and security. This provides an understanding of data's omnipresence, its diverse forms, and the ethical considerations in its use and protection.
- 3 Data Cleaning and Processing:** Students will learn about Exploratory Data Analysis (EDA). They'll explore how EDA integrates statistical methods and technology to analyze and solve problems. Key aspects of EDA such as descriptive statistics, data diagnosis, and data cleaning are covered.
- 4 Data Visualization:** Students will learn about the importance of data visualization in making complex data understandable and engaging. Exploring various chart types equips them with the skills to choose the right visualization technique based on data and storytelling needs, enhancing decision-making through visual interpretation.
- 5 Data In The Real World:** Students will learn how data is revolutionizing various industries by enhancing decision-making and operational efficiency. They will examine real-world applications of data science in business strategy, healthcare, finance, supply chain management, and HR.
- 6 Career Paths in AI:** Students will explore Data Science as a dynamic field blending statistics, domain knowledge, and programming. They will learn about its impact across sectors and the diverse career opportunities it offers.
- 7 The Crucial Role of Data Science for Entrepreneurs and in the Workplace:** Students will learn how data science is crucial for entrepreneurs to gain competitive advantages. They'll understand how analyzing data helps predict market trends, understand consumer behaviors, and make informed strategic decisions.



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7 sessions - 1 hour per session

OUTCOMES

Students will:

- Gain a strong understanding of data science basics, including key concepts, data types, and its role in strategic decision-making.
- Enhance data literacy essential for employability, particularly in the MENA region, and learn to use data science for innovation in entrepreneurship.
- Acquire practical insights through case studies in sectors like retail and healthcare, understanding real-world applications of data science..
- Explore diverse career paths in data science, learning about the evolution of the field and the range of opportunities from technical to strategic roles..
- Learn about the importance of data privacy and security, with a focus on best practices and ethical considerations in data handling.
- Develop skills in data visualization, learning to use various chart types and visualization techniques for effective data interpretation and decision-making.
- Understand how data science drives competitive advantages in entrepreneurship and business, enhancing operational efficiency, marketing strategies, and data-driven decision-making.

SKILLS

Data Analysis - Data Visualization - Critical Thinking - Problem-Solving -Technical Proficiency - Data Literacy - Strategic Decision-Making - Knowledge of Data Privacy and Security - Entrepreneurial Insight - Career Development