

What is Data Science?

by IBM

About this Course

Do you want to know why data science has been labeled the sexiest profession of the 21st century? After taking this course, you will be able to answer this question, understand what data science is and what data scientists do, and learn about career paths in the field.








The art of uncovering insights and trends in data has been around since ancient times. The ancient Egyptians used census data to increase efficiency in tax collection and accurately predicted the Nile River's flooding every year. Since then, people have continued to use data to derive insights and predict outcomes. Recently, they have carved out a unique and distinct field for the work they do. This field is data science.

In today's world, we use Data Science to find patterns in data and make meaningful, data-driven conclusions and predictions. This course is for everyone and teaches concepts like how data scientists use machine learning and deep learning and how companies apply data science in business.

You will meet several data scientists, who will share their insights and experiences in data science. By taking this introductory course, you will begin your journey into this thriving field.

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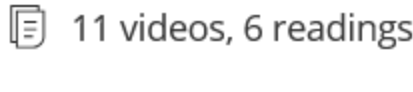


Taught by: [Alex Akison](#), Ph.D., Data Scientist




	Basic Info	Course 1 of 12 in the IBM Data Science Specialization
	Level	Beginner
	Commitment	3 weeks of study, 2-3 hours/week, 1 optional week
	Language	English, Subtitles: Arabic, French, Bengali, Ukrainian, Chinese (Simplified), Greek, Italian, Portuguese (Brazil), Dutch, Korean, German, Pashto, Urdu, Russian, Thai, Indonesian, Swedish, Turkish, Azerbaijani, Spanish, Dari, Hindi, Japanese, Kazakh, Hungarian, Polish
	How To Pass	Pass all graded assignments to complete the course.
	User Ratings	 Average User Rating 4.7

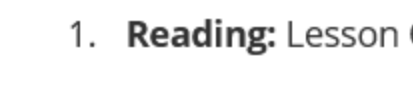




Syllabus


Module 1

Syllabus

Module 1
<div>Defining Data Science and What Data Scientists Do</div> <div>In Module 1, you delve into some fundamentals of Data Science. In lesson 1, you listen to how other professionals in the field define what data science is to them and the paths they took to consider data science as a career for themselves. You explore different roles data scientists fulfill, how data analysis is used in data science, and how data scientists follow certain processes to answer questions with that data.</div> <div>▼More</div> <div></div> <div><ol style="list-style-type: none">Video: Course IntroductionReading: Course SyllabusReading: Professional Certificate Career SupportReading: Helpful Tips for Course CompletionReading: Lesson Overview: Defining Data ScienceVideo: What is Data Science?Video: Fundamentals of Data ScienceVideo: The Many Paths to Data ScienceUngraded Plugin: Data Science: The Sexiest Job in the 21st CenturyGraded Assignment: Practice Quiz: Data Science: The Sexiest Job in the 21st CenturyVideo: Advice for New Data ScientistsVideo: Lesson Summary: Defining Data ScienceGraded Assignment: Practice Quiz: Defining Data ScienceUngraded Plugin: Glossary: Defining Data ScienceReading: Lesson Overview: What Do Data Scientists Do?Video: A Day in the Life of a Data ScientistVideo: Data Science Skills & Big DataVideo: Understanding Different Types of File FormatsVideo: Data Science Topics and AlgorithmsDiscussion Prompt: Introduce YourselfUngraded Plugin: What Makes Someone a Data Scientist?Video: Lesson Summary: What Do Data Scientists Do?Graded Assignment: Practice Quiz: What makes Someone a Data Scientist?Ungraded Plugin: Glossary: What do Data Scientists Do?Reading: Summary: What Do Data Scientists Do?<div>Show less</div><div> Graded: Graded Quiz: Defining Data Science</div><div> Graded: Graded Quiz: What Data Scientists Do</div></div>

Module 2
<div>Data Science Topics</div> <div>In the first lesson in this module, you gain insight into the impact of big data on various aspects of society, from business operations to sports, and develop an understanding of key attributes and challenges associated with big data. You will learn about the big data fundamentals, how data scientists use the cloud to handle big data, and the data mining process. Lesson two delves into machine learning and deep learning and the relationship of artificial intelligence to data science.</div> <div></div> <div><ol style="list-style-type: none">Reading: Lesson Overview: Big Data and Data MiningVideo: How Big Data is Driving Digital TransformationVideo: Introduction to CloudVideo: Cloud for Data ScienceVideo: Foundations of Big DataVideo: Data Science and Big DataVideo: What is Hadoop?Video: Big Data Processing Tools: Hadoop, HDFS, Hive, and SparkUngraded Plugin: Data MiningGraded Assignment: Practice Quiz: Data MiningVideo: Lesson Summary: Big Data and Data MiningGraded Assignment: Practice Quiz: Big Data and Data MiningUngraded Plugin: Glossary: Big Data and Data MiningReading: Lesson Overview: Deep Learning and Machine LearningVideo: Artificial Intelligence and Data ScienceVideo: Generative AI and Data ScienceVideo: Neural Networks and Deep LearningVideo: Applications of Machine LearningUngraded Plugin: RegressionGraded Assignment: Practice Quiz: RegressionUngraded Plugin: Lab: Exploring Data using IBM Cloud GalleryVideo: Lesson Summary: Deep Learning and Machine LearningGraded Assignment: Practice Quiz: Deep Learning and Machine LearningUngraded Plugin: Glossary: Deep Learning and Machine LearningReading: Summary: Deep Learning and Machine Learning<div>Show less</div><div> Graded: Graded Quiz: Big Data and Data Mining</div><div> Graded: Graded Quiz: Deep Learning and Machine Learning</div></div>

Module 3
<div>Applications and Careers in Data Science</div> <div>In the first lesson, you learn about the power of data science applications and how organizations leverage this power to drive business goals, improve efficiency, make predictions, and even save lives. You also reviewed the process you will follow as a data scientist to help your organization accomplish these ends. In the second lesson, you investigate what companies seek in a competent, experienced data scientist. You will learn how to position yourself to get hired as a data scientist. Amidst the diverse</div> <div>▼More</div> <div></div> <div><ol style="list-style-type: none">Reading: Lesson Overview: Data Science Application DomainsVideo: How Should Companies Get Started in Data Science?Video: Old Problems, New Data Science SolutionsVideo: Applications of Data ScienceVideo: How Data Science is saving livesUngraded Plugin: The Final DeliverableGraded Assignment: Practice Quiz: The Final DeliverableVideo: Lesson Summary: Data Science Applications DomainGraded Assignment: Practice Quiz: Data Science Application DomainsUngraded Plugin: Glossary: Data Science Application DomainsReading: Lesson Overview: Careers and Recruiting in Data ScienceVideo: How Can Someone Become a Data Scientist?Video: Recruiting for Data ScienceVideo: Careers in Data ScienceVideo: Importance of Mathematics and Statistics for Data ScienceUngraded Plugin: The Report StructureGraded Assignment: Practice Quiz: The Report StructureVideo: Lesson Summary: Careers and Recruiting in Data ScienceGraded Assignment: Practice Quiz: Careers and Recruiting in Data ScienceUngraded Plugin: Glossary: Careers and Recruiting in Data ScienceReading: Summary: Careers and Recruiting in Data ScienceReading: A Roadmap to your Data Science JourneyUngraded Plugin: Case Study: Final AssignmentUngraded Plugin: Explore Data Science Job ListingsReading: Course SummaryReading: Congrats & Next StepsReading: Course Team and AcknowledgementsReading: IBM Digital Badge<div>Show less</div><div> Graded: Graded Quiz: Data Science Application Domains</div><div> Graded: Graded Quiz: Careers and Recruiting in Data Science</div><div> Graded: Quiz Based on Case Study</div><div> Graded: Final Exam</div></div>

Module 4
<div>Data literacy for Data Science (Optional)</div> <div>This optional module focuses on understanding data and data literacy and is intended to supplement what you learned in the first three modules. As a data scientist, you will need to understand the ecosystem in which your data lives and how it gets manipulated to analyze it. This module introduces you to some of these fundamentals. In lesson one, you explore how data can be generated, stored, and accessed. In lesson two, you take a deeper dive into data repositories and processes for handling</div> <div>▼More</div> <div></div> <div><ol style="list-style-type: none">Reading: Lesson Overview: Understanding DataVideo: Understanding DataVideo: Data SourcesVideo: Viewpoints: Working with Varied Data Sources and TypesUngraded Plugin: Reading: MetadataGraded Assignment: Practice Quiz: MetadataVideo: Lesson Summary: Understanding DataUngraded Plugin: Glossary: Understanding DataGraded Assignment: Practice Quiz - Understanding DataReading: Lesson Overview: Data LiteracyVideo: Data Collection and OrganizationVideo: Relational Database Management SystemVideo: NoSQLVideo: Data Marts, Data Lakes, ETL, and Data PipelinesVideo: Viewpoints: Considerations for Choice of Data RepositoryVideo: Data Integration PlatformsGraded Assignment: Practice Quiz: Data Integration PlatformsVideo: Lesson Summary: Welcome to Data LiteracyGraded Assignment: Practice Quiz: Data LiteracyUngraded Plugin: Glossary: Data Literacy for Data ScienceReading: Summary: Data Literacy for Data Science<div>Show less</div></div>

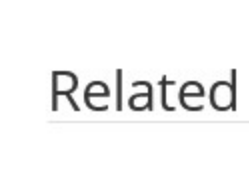
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