IBM Course Description

IBM Data Science Professional Certificate

https://www.coursera.org/professional-certificates/ibm-data-science

There are 9 Courses in this Professional Certificate

COURSE 1 What is Data Science?

4.7
stars
41,461 ratings
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7,725 reviews

The art of uncovering the insights and trends in data has been around since ancient times. The ancient Egyptians used census data to increase efficiency in tax collection and they accurately predicted the flooding of the Nile river every year. Since then, people working in data science have carved out a unique and distinct field for the work they do. This field is data science. In this course, we will meet some data science practitioners and we will get an overview of what data science is today.

COURSE 2 Tools for Data Science

4.5
stars
19,835 ratings
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3,002 reviews

What are some of the most popular data science tools, how do you use them, and what are their features? In this course, you'll learn about Jupyter Notebooks, RStudio IDE, Apache Zeppelin and Data Science Experience. You will learn about what each tool is used for, what programming languages they can execute, their features and limitations. With the tools hosted in the cloud on Cognitive Class Labs, you will be able to test each tool and follow instructions to run simple code in Python, R or Scala. To end the course, you will create a final project with a Jupyter Notebook on IBM Data Science Experience and demonstrate your proficiency preparing a notebook, writing Markdown, and sharing your work with your peers.

LIMITED TIME OFFER: Subscription is only $39 USD per month for access to graded materials and a certificate.

COURSE 3 [Data Science Methodology](#)

4.6
stars

15,139 ratings

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1,777 reviews

Despite the recent increase in computing power and access to data over the last couple of decades, our ability to use the data within the decision making process is either lost or not maximized at all too often, we don't have a solid understanding of the questions being asked and how to apply the data correctly to the problem at hand.

This course has one purpose, and that is to share a methodology that can be used within data science, to ensure that the data used in problem solving is relevant and properly manipulated to address the question at hand. Accordingly, in this course, you will learn: - The major steps involved in tackling a data science problem. - The major steps involved in practicing data science, from forming a concrete business or research problem, to collecting and analyzing data, to building a model, and understanding the feedback after model deployment. - How data scientists think! LIMITED TIME OFFER: Subscription is only $39 USD per month for access to graded materials and a certificate.

COURSE 4 [Python for Data Science and AI](#)

4.6
stars

19,260 ratings

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3,015 reviews

Kickstart your learning of Python for data science, as well as programming in general, with this beginner-friendly introduction to Python. Python is one of the world's most popular programming languages, and there has never been greater demand for professionals with the ability to apply Python fundamentals to drive business solutions across industries.

This course will take you from zero to programming in Python in a matter of hours—no prior programming experience necessary! You will learn Python fundamentals, including data structures and data analysis, complete hands-on exercises throughout the course modules, and create a final project to demonstrate your new skills. By the end of this course, you'll feel comfortable creating basic programs, working with data, and solving

real-world problems in Python. You'll gain a strong foundation for more advanced learning in the field, and develop skills to help advance your career. This course can be applied to multiple Specialization or Professional Certificate programs. Completing this course will count towards your learning in any of the following programs: IBM Applied AI Professional Certificate Applied Data Science Specialization IBM Data Science Professional Certificate Upon completion of any of the above programs, in addition to earning a Specialization completion certificate from Coursera, you'll also receive a digital badge from IBM recognizing your expertise in the field.

COURSE 5 [Databases and SQL for Data Science](#)

4.7
stars

12,273 ratings

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1,405 reviews

Much of the world's data resides in databases. SQL (or Structured Query Language) is a powerful language which is used for communicating with and extracting data from databases. A working knowledge of databases and SQL is a must if you want to become a data scientist.

The purpose of this course is to introduce relational database concepts and help you learn and apply foundational knowledge of the SQL language. It is also intended to get you started with performing SQL access in a data science environment. The emphasis in this course is on hands-on and practical learning . As such, you will work with real databases, real data science tools, and real-world datasets. You will create a database instance in the cloud. Through a series of hands-on labs you will practice building and running SQL queries. You will also learn how to access databases from Jupyter notebooks using SQL and Python. No prior knowledge of databases, SQL, Python, or programming is required. Anyone can audit this course at no-charge. If you choose to take this course and earn the Coursera course certificate, you can also earn an IBM digital badge upon successful completion of the course. LIMITED TIME OFFER: Subscription is only $39 USD per month for access to graded materials and a certificate.

COURSE 6 [Data Analysis with Python](#)

4.7
stars

12,424 ratings

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1,802 reviews

Learn how to analyze data using Python. This course will take you from the basics of Python to exploring many different types of data. You will learn how to prepare data for analysis, perform simple statistical analysis, create meaningful data visualizations, predict future trends from data, and more!

Topics covered: 1) Importing Datasets 2) Cleaning the Data 3) Data frame manipulation 4) Summarizing the Data 5) Building machine learning Regression models 6) Building data pipelines Data Analysis with Python will be delivered through lecture, lab, and assignments. It includes following parts: Data Analysis libraries: will learn to use Pandas, Numpy and Scipy libraries to work with a sample dataset. We will introduce you to pandas, an open-source library, and we will use it to load, manipulate, analyze, and visualize cool datasets. Then we will introduce you to another open-source library, scikit-learn, and we will use some of its machine learning algorithms to build smart models and make cool predictions. If you choose to take this course and earn the Coursera course certificate, you will also earn an IBM digital badge. LIMITED TIME OFFER: Subscription is only $39 USD per month for access to graded materials and a certificate.

COURSE 7 [Data Visualization with Python](#)

4.5
stars
8,481 ratings

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1,179 reviews

"A picture is worth a thousand words". We are all familiar with this expression. It especially applies when trying to explain the insight obtained from the analysis of increasingly large datasets. Data visualization plays an essential role in the representation of both small and large-scale data.

One of the key skills of a data scientist is the ability to tell a compelling story, visualizing data and findings in an approachable and stimulating way. Learning how to leverage a software tool to visualize data will also enable you to extract information, better understand the data, and make more effective decisions. The main goal of this Data Visualization with Python course is to teach you how to take data that at first glance has little meaning and present that data in a form that makes sense to people. Various techniques have been developed for presenting data visually but in this course, we will be using several data visualization libraries in Python, namely

Matplotlib, Seaborn, and Folium. LIMITED TIME OFFER: Subscription is only $39 USD per month for access to graded materials and a certificate.

COURSE 8 [Machine Learning with Python](#)

4.7 stars

10,066 ratings

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1,656 reviews

This course dives into the basics of machine learning using an approachable, and well-known programming language, Python.

In this course, we will be reviewing two main components: First, you will be learning about the purpose of Machine Learning and where it applies to the real world. Second, you will get a general overview of Machine Learning topics such as supervised vs unsupervised learning, model evaluation, and Machine Learning algorithms. In this course, you practice with real-life examples of Machine learning and see how it affects society in ways you may not have guessed! By just putting in a few hours a week for the next few weeks, this is what you'll get. 1) New skills to add to your resume, such as regression, classification, clustering, sci-kit learn and SciPy 2) New projects that you can add to your portfolio, including cancer detection, predicting economic trends, predicting customer churn, recommendation engines, and many more. 3) And a certificate in machine learning to prove your competency, and share it anywhere you like online or offline, such as LinkedIn profiles and social media. If you choose to take this course and earn the Coursera course certificate, you will also earn an IBM digital badge upon successful completion of the course.

COURSE 9 [Applied Data Science Capstone](#)

4.7 stars

4,906 ratings

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613 reviews

This capstone project course will give you a taste of what data scientists go through in real life when working with data.

You will learn about location data and different location data providers, such as Foursquare. You will learn how to make RESTful API calls to the Foursquare API to retrieve data about venues in different neighborhoods around the world. You will also learn how to be creative in situations where data are not readily available by scraping

web data and parsing HTML code. You will utilize Python and its pandas library to manipulate data, which will help you refine your skills for exploring and analyzing data. Finally, you will be required to use the Folium library to great maps of geospatial data and to communicate your results and findings. If you choose to take this course and earn the Coursera course certificate, you will also earn an IBM digital badge upon successful completion of the course. LIMITED TIME OFFER: Subscription is only $39 USD per month for access to graded materials and a certificate.