



Aug 8, 2021

**Srikanth Deti**

has successfully completed

**Tools for Data Science**

an online non-credit course authorized by IBM and offered through Coursera

Three handwritten signatures in black ink, stacked vertically, over a dotted line.

Maureen McElaney  
Romeo Kienzler  
Svetlana Levitan

**COURSE  
CERTIFICATE**



Verify at [coursera.org/verify/8NGPJ EZJL8QA](https://coursera.org/verify/8NGPJ EZJL8QA)

Coursera has confirmed the identity of this individual and their participation in the course.



# Tools for Data Science

by IBM

## About this Course

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, JupyterLab, RStudio IDE, Git, GitHub, and Watson Studio. 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 Skills Network 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 Watson Studio and demonstrate your proficiency preparing a notebook, writing Markdown, and sharing your work with your peers.

▼ More



### Taught by:

**Aije Egwaikhide**, Senior Data  
Scientist  
IBM



### Taught by:

**Svetlana Levitan**, Senior Developer  
Advocate with IBM Center for Open  
Data and AI Technologies



### Taught by:

**Romeo Kienzler**, Chief Data  
Scientist, Course Lead  
IBM Watson IoT

Basic Info	Course 2 of 10 in the IBM Data Science Specialization
Level	Beginner


 <b>Commitment</b>	3 weeks of study, 2-3 hours/week 	
<b>Language</b>	English, <b>Subtitles:</b> Arabic, French, Portuguese (European), Italian, Vietnamese, German, Russian, Spanish, Persian <b>Volunteer to translate subtitles for this course</b>	
<b>How To Pass</b>	Pass all graded assignments to complete the course.	
<b>User Ratings</b>	★★★★☆ 4.5 stars	

## Syllabus

### WEEK 1

#### Data Scientist's Toolkit

This week, you will get an overview of the programming languages commonly used, including Python, R, Scala, and SQL. You'll be introduced to the open source and commercial data science tools available. You'll also learn about the packages, APIs, data sets and models frequently used by data scientists.

 17 videos, 3 practice quizzes

1. **Video:** Course Introduction
2. **Video:** Languages of Data Science
3. **Video:** Introduction to Python
4. **Video:** Introduction to R Language
5. **Video:** Introduction to SQL
6. **Video:** Other Languages
7. **Practice Quiz:** Practice Quiz - Languages
8. **Video:** Categories of Data Science Tools
9. **Video:** Open Source Tools for Data Science - Part 1
10. **Video:** Open Source Tools for Data Science - Part 2
11. **Video:** Commercial Tools for Data Science
12. **Video:** Cloud Based Tools for Data Science
13. **Practice Quiz:** Practice Quiz - Tools



14. **Video:** Libraries for Data Science
15. **Video:** Application Programming Interfaces (API)
16. **Video:** Data Sets - Powering Data Science
17. **Video:** Sharing Enterprise Data - Data Asset eXchange
18. **Video:** Machine Learning Models
19. **Video:** The Model Asset Exchange
20. **Ungraded Plugin:** Reading: Explore Data Sets and Models
21. **Practice Quiz:** Practice Quiz - Packages, APIs, Data Sets, Models

**Show less****Graded:** Graded Quiz

## WEEK 2

## Open Source Tools

This week, you will learn about three popular tools used in data science: GitHub, Jupyter Notebooks, and RStudio IDE. You will become familiar with the features of each tool, and what makes these tools so popular among data scientists today.



12 videos, 3 practice quizzes

1. **Video:** Introduction to Jupyter Notebook
2. **Video:** Getting Started with Jupyter
3. **Video:** Jupyter Kernels
4. **Video:** Jupyter Architecture
5. **Ungraded Plugin:** Hands-on Lab: Jupyter Notebook - The Basics
6. **LTI Item:** Lab - Jupyter Notebook - The Basics
7. **Ungraded Plugin:** Lab - Jupyter Notebook - More Features
8. **LTI Item:** Lab - Jupyter Notebook - More Features
9. **Ungraded Plugin:** Hands-on Lab: Jupyter Notebook - Advanced Features
10. **LTI Item:** Lab - Jupyter Notebook - Advanced Features
11. **Ungraded Plugin:** Jupyter Notebooks on the Internet
12. **Practice Quiz:** Practice Quiz - Jupyter Notebook
13. **Video:** Introduction to R and RStudio
14. **Video:** Plotting within RStudio



15. **LTI Item:** Getting started with RStudio and Installing packages
16. **Ungraded Plugin:** Getting started with RStudio and Installing packages
17. **LTI Item:** Plotting within RStudio
18. **Ungraded Plugin:** Plotting within RStudio
19. **LTI Item:** Plotting within RStudio (Advanced)
20. **Practice Quiz:** Practice Quiz - RStudio IDE
21. **Video:** Overview of Git/GitHub
22. **Video:** GitHub - Getting Started
23. **Ungraded Plugin:** Lab 1: GitHub Lab - Getting Started
24. **Video:** GitHub - Working with Branches
25. **Ungraded Plugin:** Lab: Branching, Merging and Pull Requests on GitHub (Optional)
26. **Video:** Git and GitHub via command line (Optional)
27. **Ungraded Plugin:** Pre-requisites for command line interface (Optional)
28. **Ungraded Plugin:** Configuring SSH access to repository (Optional)
29. **Ungraded Plugin:** Git and GitHub via command line instructions (Optional)
30. **Video:** Branching and merging via command line (Optional)
31. **Ungraded Plugin:** Lab 2: Branching and merging via command line (Optional)
32. **Video:** Contributing to repositories via pull request (Optional)
33. **Ungraded Plugin:** Lab 3: Contributing to repositories via pull request (Optional)
34. **Practice Quiz:** Practice Quiz - GitHub


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 **Graded:** Graded Quiz

## WEEK 3

### IBM Tools for Data Science

This week, you will learn about an enterprise-ready data science platform by IBM, called Watson Studio. You'll learn about some of the features and capabilities of what data scientists use in the industry. You'll also learn about other IBM tools used to support data science projects, such as IBM Watson Knowledge Catalog, Data Refinery, and the SPSS Modeler.

 15 videos, 2 practice quizzes

1. **Video:** What is IBM Watson Studio?



2. **Video:** Watson Studio Introduction
3. **Video:** Creating an Account on IBM Watson Studio
4. **Video:** Jupyter Notebook in Watson Studio - Part 1
5. **Video:** Jupyter Notebook in Watson Studio - Part 2
6. **Ungraded Plugin:** Hands-on Lab: Creating a Watson Studio Project with Jupyter Notebook
7. **Video:** Linking GitHub to Watson Studio
8. **Practice Quiz:** Practice Quiz - Watson Studio
9. **Video:** Other IBM Tools for Data Science
10. **Video:** IBM Watson Knowledge Catalog
11. **Video:** Data Refinery
12. **Video:** SPSS Modeler Flows in Watson Studio
13. **Ungraded Plugin:** Lab: Modeler Flows in Watson Studio
14. **Video:** IBM SPSS Modeler
15. **Video:** SPSS Statistics
16. **Video:** Model Deployment with Watson Machine Learning
17. **Video:** Auto AI in Watson Studio
18. **Video:** IBM Watson OpenScale
19. **Practice Quiz:** Practice Quiz - Other IBM Tools

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**Graded:** Graded Quiz

## WEEK 4

### Final Assignment: Create and Share Your Jupyter Notebook

This week, you will demonstrate your skills by creating and configuring a Jupyter Notebook. As part of your grade for this course, you will share your Jupyter Notebook with your peers for review.



1 reading

1. **Ungraded Plugin:** Instructions: Create and Share Your Jupyter Notebook
2. **Reading:** IBM Digital Badge

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**View Less**

## How It Works

### General

#### How do I pass the course?

To earn your Course Certificate, you'll need to earn a passing grade on each of the required assignments—these can be quizzes, peer graded assignments, or programming assignments. Videos, readings, and practice exercises are there to help you prepare for the graded assignments.

▼ **More**

### Peer-graded assignments

#### What do start dates and end dates mean?

Peer-graded assignments require you and your classmates to grade each other's work. Once you enroll, you'll have access to all videos, readings, quizzes, and programming assignments (if applicable). If you choose to explore the course without purchasing, you may not be able to access certain assignments. If you don't finish all graded assignments before the end of the course, you can reset your deadlines. Your progress will be saved and you'll be able to pick up where you left off.

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#### How do peer graded assignments work?

Course 2 of Specialization

After you submit your assignment, you will review some of your peers' assignments.

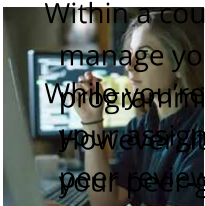
The number of assignments you must review is set by the instructor of the course.

**Kickstart your career in data science & ML**  
**What are due dates? Is there a penalty for submitting my work after a due date?**

Build data science skills, learn Python & SQL, analyze & visualize data, build machine learning models.  
No degree or prior experience required.

#### I reviewed my peers' assignments! What happens next?

Within a course, there are suggested due dates to help you manage your schedule and keep coursework from piling up. Quizzes and programming assignments can be submitted late with no penalty. If you submit your assignment late, you'll get your grade within a week as long as at least one peer reviewed your assignment. If you submit late, you'll need all of the peer reviews the instructor requires within three days of the assignment deadline.



**View the course in catalog**

Yes. If you want to improve your grade, you can always try again.

If you're re-attempting a peer-graded assignment, re-submit your work

How



is calculated? Sure there's enough time for your classmates

your work. In some cases you may need to wait before

Coursera Community Project Network

g a programming assignment or quiz. We encourage you to

classmates will be asked to provide a score for each part of

se material during this delay.

the assignment. Final grades are calculated by combining the median scores you

received for each section.



Addiction Treatment: Clinical Skills for Healthcare Providers

When

feedback should I give?

Use the instructor's criteria in the rubric to grade honestly and fairly. If your

p is a model of the time they have to take to do it well. If their

a Archaeology and History of the Palatine Hill



Sapienza University of Rome

eful feedback

so they can do better next time they attempt the assignment.



Setting Up a Digital Library with EPIC

Coursera Project Network

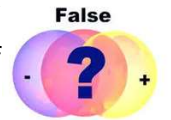
Is t

ality for submitting my work late?

No, but it's important to submit your work as close to the due date as you can.

C Type 1 and Type 2 Error Analysis in Google Sheets

If yours too late, there may not be anyone to review your work.



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If I fail an assignment, can I try again?

Yes! You can always try again, but you'll need to resubmit your work as

soon as possible to make sure your classmates have enough time to grade your work.

Can I edit my assignment?

Yes, but you'll need to re-submit your work and any grade you've already

received will be deleted.