COURSE
CERTIFICATE

Aug 10, 2021

Srikanth Deti

has successfully completed

Python for Data Science, AI & Development

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

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Senior Data Scientist
IBM

Verify at coursera.org/verify/SZ465EUTASA8

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

Python for Data Science, AI & Development

by IBM

About this Course

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.

More

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.

Taught by:

Joseph Santarcangelo, Ph.D.,
Data Scientist at IBM
IBM Developer Skills Network

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.

Basic Info	Course 2 of 13 in the IBM Data Engineering Specialization
Level	Beginner
Language	English **Volunteer to translate subtitles for this course**
How To Pass	Pass all graded assignments to complete the course.
User Ratings	★★★★½ 4.6 stars

Syllabus

WEEK 1

Python Basics

This module teaches the basics of Python and begins by exploring some of the different data types such as integers, real numbers, and strings. Continue with the module and learn how to use expressions in mathematical operations, store values in variables, and the many different ways to manipulate strings.

3 videos, 1 reading, 3 practice quizzes

1. **Reading:** About this course
2. **Video:** Types
3. **Practice Quiz:** Practice Quiz
4. **Video:** Expressions and Variables
5. **LTI Item:** Hands-On Lab: Your First Program, Types, Expressions, and Variables
6. **Practice Quiz:** Practice Quiz
7. **Video:** String Operations
8. **LTI Item:** Hands-On Lab: Strings
9. **Practice Quiz:** Practice Quiz

Show less

Graded: Module 1 Graded Quiz

WEEK 2

Python Data Structures

This module begins a journey into Python data structures by explaining the use of lists and tuples and how they are able to store collections of data in a single variable. Next learn about dictionaries and how they function by storing data in pairs of keys and values, and end with Python sets to learn how this type of collection can appear in any order and will only contain unique elements.

3 videos, 3 practice quizzes

1. **Video:** List and Tuples
2. **LTI Item:** Hands-On Lab: Lists
3. **LTI Item:** Hands-On Lab: Tuples
4. **Practice Quiz:** Practice Quiz
5. **Video:** Dictionaries

6. **LTI Item:** Hands-On Lab: Dictionaries
7. **Practice Quiz:** Practice Quiz
8. **Video:** Sets
9. **LTI Item:** Hands-On Lab: Sets
10. **Practice Quiz:** Practice Quiz

Show less

Graded: Module 2 Graded Quiz

WEEK 3

Python Programming Fundamentals

This module discusses Python fundamentals and begins with the concepts of conditions and branching. Continue through the module and learn how to implement loops to iterate over sequences, create functions to perform a specific task, perform exception handling to catch errors, and how classes are needed to create objects.

5 videos, 5 practice quizzes

1. **Video:** Conditions and Branching
2. **LTI Item:** Hands-On Lab: Conditions and Branching
3. **Practice Quiz:** Practice Quiz
4. **Video:** Loops
5. **LTI Item:** Hands-On Lab: Loops
6. **Practice Quiz:** Practice Quiz
7. **Video:** Functions
8. **LTI Item:** Hands-On Lab: Functions
9. **Practice Quiz:** Practice Quiz
10. **Video:** Exception Handling
11. **LTI Item:** Hands-On Lab: Exception Handling
12. **Practice Quiz:** Practice Quiz
13. **Video:** Objects and Classes
14. **LTI Item:** Hands-On Lab: Objects and Classes
15. **Practice Quiz:** Practice Quiz

Show less

Graded: Module 3 Graded Quiz

WEEK 4

Working with Data in Python

This module explains the basics of working with data in Python and begins the path with learning how to read and write files. Continue the module and uncover the best Python libraries that will aid in data manipulation and mathematical operations.

6 videos, 3 practice quizzes

1. **Video:** Reading Files with Open
2. **LTI Item:** Hands-On Lab: Reading Files with Open
3. **Video:** Writing Files with Open
4. **LTI Item:** Hands-On Lab: Writing Files with Open
5. **Practice Quiz:** Practice Quiz
6. **Video:** Loading Data with Pandas
7. **Video:** Pandas: Working with and Saving Data
8. **Ungraded Plugin:** Hands-on Lab: Pandas with IBM Watson Studio
9. **Practice Quiz:** Practice Quiz
10. **Video:** One Dimensional Numpy
11. **LTI Item:** Hands-On Lab: One Dimensional Numpy
12. **Video:** Two Dimensional Numpy
13. **LTI Item:** Hands-On Lab: Two Dimensional Numpy
14. **Practice Quiz:** Practice Quiz

Show less

Graded: Module 4 Graded Quiz

WEEK 5

APIs, and Data Collection

This module delves into the unique ways to collect data by the use of APIs and webscraping. It further explores data collection by explaining how to read and collect data when dealing with different file formats.

7 videos, 2 readings, 2 practice quizzes

1. **Video:** Simple APIs (Part 1)
2. **Video:** Simple APIs (Part 2)
3. **Ungraded Plugin:** Hands-on Lab: Instruction for Speech to Text and Language Translator API Keys
4. **LTI Item:** Hands-On Lab: Introduction to API
5. **LTI Item:** Hands-On Lab: Watson Speech to Text and Language Translator API
6. **Practice Quiz:** Practice Quiz
7. **Video:** REST APIs & HTTP Requests - Part 1
8. **Video:** REST APIs & HTTP Requests - Part 2
9. **LTI Item:** Hands-on Lab: Access REST APIs & Request HTTP
10. **Video:** Optional: HTML for Webscraping
11. **Video:** Webscraping
12. **LTI Item:** Hands-on Lab: Webscraping
13. **Video:** Working with different file formats (csv, xml, json, xlsx)
14. **LTI Item:** Hands-on Lab: Working with different file formats
15. **Practice Quiz:** Practice Quiz
16. **Reading:** Next Steps
17. **Reading:** Python Cheat Sheet: The Basics

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Graded: Module 5 Graded Quiz

Graded: Final Exam

View Less

How It Works

General

How do I pass the course?

To earn your Course Certificate, you must 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

View the course in catalog

What do start dates and end dates mean?

Related Courses

Once you enroll,

Introduction to Embedded Machine Learning

Edge Impulse

ccess to all videos, readings, quizzes, and programming if applicable). If you choose to ourse without purchasing, you may not be able to access nments. 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.

Data Science with R - Capstone Project

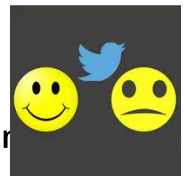
IBM

Wh dates? Is there a penalty for submitting my work after a due date?

Information Visualization: Applied Perception

New York University

W e, there are suggested due dates to help you schedule and keep coursework from piling up. Quizzes and assignments can be submitted late without consequence. possible that you won't receive a grade if you submit your peer-graded assignment too late because classmates usually review assignment within three days of the assignment deadline.

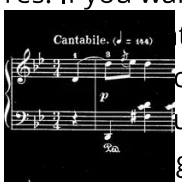


NLP: Twitter Sentiment Analysis

Coursera Project Network

Car pt an assignment?

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



Getting Started With Music Theory

Michigan State University

tempting a peer-graded assignment, submit your work ou can to make sure there's enough time for your classmates ur work. In some cases you may need to wait before g a programming assignment or quiz. We encourage you to review course material during this delay.