

Chegg Skills

Data Engineering

 Part-time (10 hours/week)

 100% online

 Certificate of Completion

Introduction

Congratulations on taking a major step in advancing your career. This program is designed for aspiring data engineers who desire to create data pipelines and load them into data warehouses to maximize organizational decision-making.

As a member of the Chegg family, we are always Student First. Backed by one of the largest ed tech companies in the world, we're committed to giving you the skills and learning support you need to grow professionally.



Here's what you need to know:

- **Program Length:** 6 months
- **Time Commitment:** Part-time (10 hours/week)
- **Instructional Type:** Online
- **Class Schedule:** Independent study
- **Credential Awarded:** Certificate of Completion

The minimum expected time commitment for this program is estimated at 10 hours/week. This includes your required 1-on-1 mentor session each week. Within this self-paced course, some students may progress more quickly than others.

About the Program

The Data Engineering Certificate program trains aspiring professionals with vital skills in designing, building, and maintaining the infrastructure required to access and analyze data. You'll get hands-on practice with database design, data modeling, ETL (extract, transform, load), processes, data integration, and warehousing. Students enter from various backgrounds and industries and leave with applicable skills to enter the data engineering field.

This program covers 6 high-level objectives:

- 1 Retrieving and analyzing vast data sources using SQL
- 2 Accessing and manipulating complex data using Python
- 3 Extracting and transforming data into desired structures
- 4 Creating and using data warehouses to effectively store and manage data
- 5 Visualizing data using Tableau to communicate insights
- 6 Interacting with data from external services, databases, and applications

Course 1

SQL for Data Engineering

Lock down foundational SQL skills crucial for managing and querying data.

Modules include:

- SQL for Data Engineering
- Relational Databases
- Basic SQL Queries
- Advanced SQL Queries

How You'll Apply These Skills:

Kickoff your data engineering journey by mastering the core concepts of relational databases, the intricacies of different data structures, and the execution of basic to advanced SQL queries. Through hands-on practice, you'll wield the power of SQL for data exporting, filtering, and sorting. You'll explore numeric, time, and data commands in SQL, in-depth, to effectively manipulate and manage diverse data sets.

Course 2

Python Fundamentals

Build foundational Python skills by exploring its data storage and practical applications to prepare for complex data engineering tasks.

Modules include:

- Basics of Python
- Python Strings and Numbers
- Python Collections and Loops

How You'll Apply These Skills:

Gain an in-depth understanding of Python, including its integrated development environments and the use of Colab notebooks. Throughout this course, you'll gain hands-on experience in data storage with Python variables, and strengthen your proficiency in handling Python strings, numbers, collections, and loops. This foundational knowledge serves as a steppingstone for tackling more complex Python applications in data engineering.

Course 3

Python for Data Engineering

Extract and manipulate data using powerful Python libraries like pandas and PySpark.

Modules include:

- Pandas Fundamentals
- Data Manipulation with Pandas
- Data Extraction and Analysis with Pandas
- Introduction to PySpark

How You'll Apply These Skills:

Utilize pandas to create, index, and manipulate DataFrames and discover unique values within your datasets. You'll be introduced to PySpark, allowing you to scale your data extraction abilities to meet any challenge. This module is designed to elevate your data engineering skills, making you an invaluable asset in any data-driven organization.

Course 4

Advanced Databases and ETL Processes

Delve into NoSQL and MongoDB, mastering ETL processes, and leveraging Bash scripting in Airflow.

Modules include:

- Introduction to NoSQL and MongoDB
- ETL Processes and Tools
- Bash Scripting

How You'll Apply These Skills:

Begin by unearthing the power of advanced databases like NoSQL and MongoDB and differentiate them from traditional SQL databases. You'll master the art of CRUD operations and construct efficient data models from business requirements that drive impactful data engineering projects. Dive deep into the Extract, Transform, Load (ETL) processes, gaining hands-on experience with leading ETL tools and technologies. Finally, you'll capstone your learning by utilizing Bash scripting commands in Airflow.

Course 5

Data Warehousing and Reporting

Hone your ability to design, implement, analyze, optimize, and visualize data warehouses.

Modules include:

- Introduction to Data Warehouses
- Creating and Using Data Warehouses
- Reporting with Tableau

How You'll Apply These Skills:

Learn to design, model, and implement data warehouses using Star and Snowflake schemas. You'll get hands-on practice in querying, analyzing, and optimizing data warehouses, integrating real-time analytics with batch processing to make data-driven decisions. Solidify your understanding with data visualization and reporting methodologies using Tableau. You'll leave equipped with the necessary skills to transform raw data into actionable insights.

Course 6

Web Technologies in Data Engineering

Interact with data from external services, databases, applications, and websites using APIs.

Modules include:

- Application Programming Interfaces (APIs)

How You'll Apply These Skills:

Plunge into the fundamental depths of API, a crucial skillset for applications to interact and share data seamlessly. You'll gain hands-on experience in authenticating and authorizing APIs and managing intricate data processing. In addition, you'll learn troubleshooting techniques, ensuring you're fully equipped to handle any hurdles in data engineering.

Career Services

Career-specific skills are part of your journey. After all, you're here not only to learn new skills, but to grow professionally. That's why we include a host of resources that are aimed at career advancement.

Your program includes career guidance on:

- 1 Nailing your interviews
- 2 Crafting the perfect resume
- 3 Polishing your LinkedIn profile
- 4 Salary and negotiations
- 5 Building your professional network

FAQs

What is the experience level for Program Instructors?

Instructors are chosen based on their academic credentials, relevant industry experience, and teaching ability. Chegg Skills collects weekly feedback from students and staff in order to evaluate the quality of each program. Chegg Skills also considers industry demand for particular skill sets and success rates with each program. They look for areas of improvement, ensuring that each program has successful outcomes that match Chegg Skills mission.

The minimum requirements to serve as a mentor, technical expert, or instructor for all Chegg Skills programs are:

- 3+ years of relevant industry experience
- Demonstration of genuine student advocacy and empathy for beginners
- Exceptional written and verbal communication skills

What is the experience level for mentors? Can I choose my own?

Mentors are assigned by Chegg Skills based on fit and availability. The minimum requirements to serve as a mentor are 3+ years of relevant industry experience, demonstration of genuine student advocacy, empathy for beginners, and exceptional written and verbal communication skills.

What support do you offer students during the program?

You are fully supported from the moment you start learning, with a comprehensive, personalized approach to your success that means that while you're learning online, you're never alone. Regardless of the program you choose, you'll be assigned a mentor who's focused on helping you understand the material and excel in the program.

Do I need a computer to take the course?

Chegg Skills programs require a computer with high-speed internet access and video capability, including a webcam, a microphone, and speakers. Every student must own or have access to a personal computer with at least:

- 16GB RAM
- At least 2.0 GHz processor
- At least 256 GB HD

Computers must be available prior to the first day of class. Headphones are highly recommended. Macs must have the most current OS version installed, and PCs must be using either Windows 10 (or newer Windows operating systems) or a current version of a Linux operating system.

Chegg Skills

**Apply for the
Data Engineering
Program today.**

Kickstart your path to a new career here.