EMERITUS

Professional Certificate in
Data Engineering with Microsoft Azure

Move ahead with the future of data engineering—build in-demand Microsoft Azure skills

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6 Months | Online Program
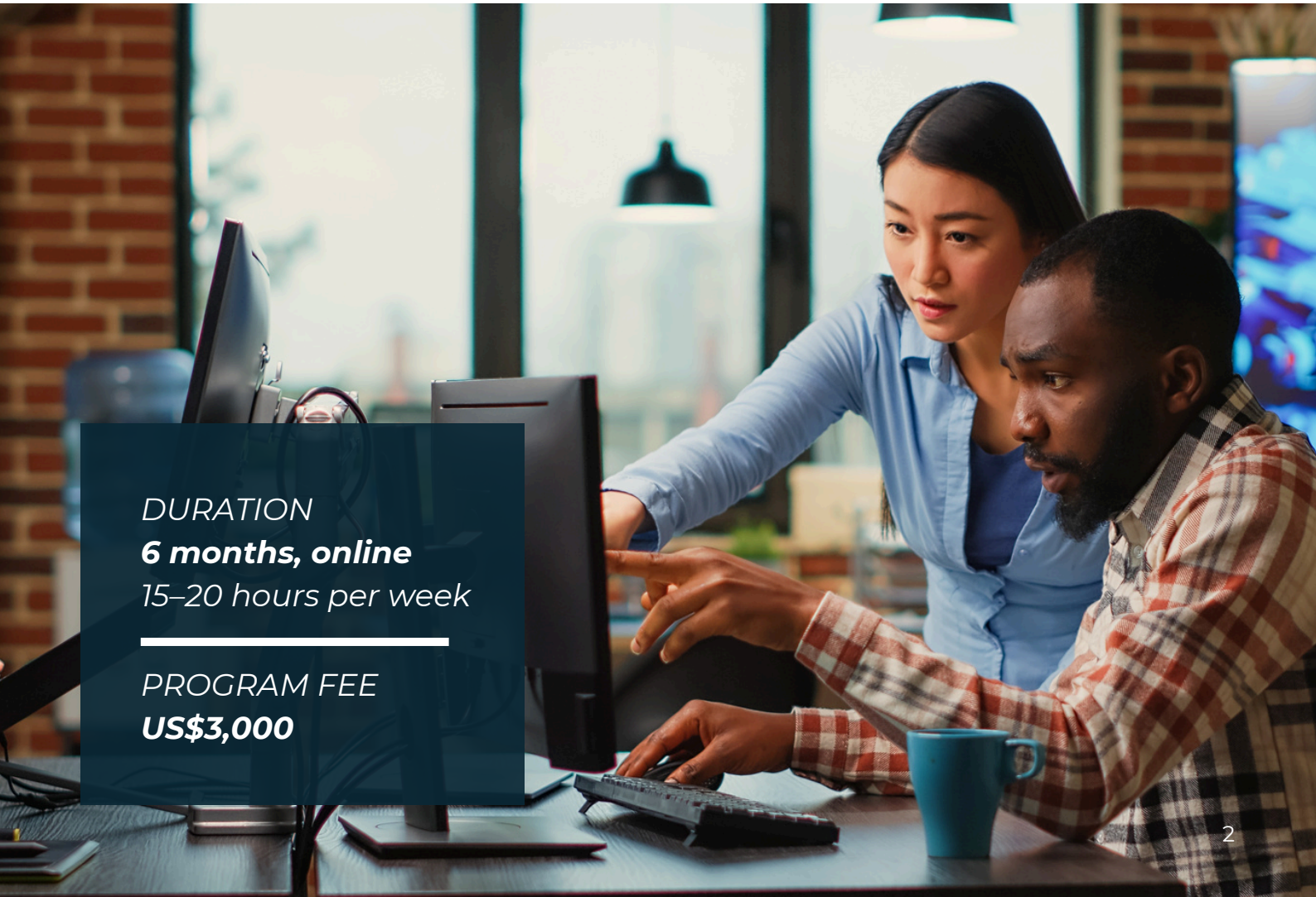
Training Partner

Microsoft Azure

Gain the Skills to Redefine What's Possible with Azure Data Engineering

As organizations accumulate vast quantities of data, the field of data engineering is becoming more critical than ever. Consequently, data engineers who design, build, and maintain data processing and analysis infrastructure account for one of the greatest increases in data-related job postings and hold a coveted spot among the top ten tech occupations.

In the age of cloud technology, data engineers who are proficient in Microsoft Azure—one of the most widely used global cloud platforms—stand out for their ability to help structure massive amounts of data and deliver real-time business insights for data-backed decision-making.

The Professional Certificate in Data Engineering with Microsoft Azure, offered by Emeritus, an authorised Microsoft Training Partner, follows a sequence of carefully curated modules to help you learn foundational data engineering concepts and gain unrivaled hands-on experience in building, managing, and optimising data solutions using Azure's tools and services. Combining the latest technical expertise of industry practitioners with Emeritus's focused, high-touch learning experience, you will gain job-ready skills and insights that matter today for long-term career success.

DURATION
6 months, online
15–20 hours per week

PROGRAM FEE
US$3,000

Program Highlights

Transformative curriculum
Build cutting-edge knowledge in data engineering and gain the practical skills needed to develop innovative data solutions using Azure to set yourself up for success in a high-demand, high-growth field.

Active learning approach
Acquire deep, hands-on experience with 15+ Azure tools and services that will help prepare you to solve your organisation's most pressing data challenges.

Job-ready skills
Create a comprehensive, job-ready portfolio of 80+ hands-on assignments and try-It activities that highlight your skills and showcase real-world projects.

Head start on exam preparation
Enhance your readiness for Azure certification exams DP-203, AZ-900, AZ-104, and DP-900.*

Career guidance
Benefit from group and individual career guidance and mentorship opportunities to help launch or accelerate your data engineering career with Azure.

Certificate of completion
Earn a verified certificate of completion from Emeritus, validating your proficiency in the Microsoft Azure suite of data engineering services.

Please note that additional preparation and on-the-job experience may be required to clear the examinations.
This program fee includes the exam fee for the Microsoft certified: Azure Data Engineer Associate (DP-203). This exam fee is applicable once after successful completion of the program. Emeritus does not assume responsibility for participants' success in passing these exams.

"The depth and complexity of today's data stores cannot be understated. Having data engineering talent with extensive knowledge of Azure is a powerful advantage for any organization and makes it an essential competency for those who want to help make sense of the expanding data universe. I am excited to help other data professionals discover the impact they can make for their organizations and their own career success."

—Amish Suchak
Faculty, The Professional Certificate in Data Engineering with Microsoft Azure
Data Science Team Lead, XSOLIS

Exam Preparation and Support

Equip yourself with comprehensive overviews of essential concepts and effective study techniques needed to enhance your readiness for Azure certification exams.*

The program assists learners in preparing for:

- Microsoft certified: Azure Data Engineer Associate (DP-203)*

- Microsoft Azure Fundamentals (AZ-900)

- Microsoft Azure Administrator (AZ-104)

- Microsoft Azure Data Fundamentals (DP-900)

* Note: This program fee includes the exam fee for the Microsoft certified: Azure Data Engineer Associate (DP-203). This exam fee is applicable once after successful completion of the program. Emeritus does not assume responsibility for participants' success in passing these exams.

Program Experience

Graded assignments and weekly quizzes to implement what you have learned and ensure that you meet your learning goals

Live office hours for asking questions and clarifying concepts

1 to 3 discussions per week to connect your experience with the program content

Live mentorship sessions to gain insights you can leverage to advance your career

A final capstone project to showcase your skills and highlight your proficiency in Azure-based data engineering

Sample Weekly Program Planner

Participants should expect to dedicate a minimum of 15 to 20 hours each week to the program.

7 to 10 hours of comprehensive, graded assignments to apply and reinforce program material

5 to 7 hours of Microsoft Learn module content and supplemental resources to enhance learning

1 hour of engaging group discussion with peers to exchange and generate ideas

1 hour of live interaction with program learning facilitators every week*

30 minutes of recorded video lectures with faculty

Live interactions are subject to change based on availability.

Who Is This Program For?

Whether you are kick-starting your career in data engineering, are early in your data engineering career, or looking to switch from a related field, this program will help you broaden your knowledge of the Azure cloud platform and build a suite of advanced data engineering skills you can use to support an organization's outcomes. Through an immersive curriculum, including hands-on experience with Azure tools and services, you will have the opportunity to gain the practical experience you need to overcome today's data challenges and build a strategic advantage for your organization and your career.

The program will be especially valuable for:

Recent STEM graduates and early-career data professionals who want to accelerate their career growth by gaining broad exposure to modern data engineering practices and develop specialized skills in Azure for building innovative cloud computing solutions that drive increased efficiencies

Early-to-mid career professionals in data-adjacent fields who are interested in moving into data engineering equipped with a set of highly sought-after Azure skills that give them an edge

Note: While there are no formal prerequisites, familiarity with Python or SQL would be beneficial to the learning experience.

The Emeritus Advantage

88% of past learners believe that an Emeritus program has had a **positive impact on their career and professional development**, with nine out of 10 witnessing the impact within 12 months

70% of past learners agree that they are **applying the knowledge and skills** learned in Emeritus programs to their jobs

89% of respondents agreed that Emeritus programs met their expectation of **staying up to date with the latest knowledge** in their fields

Source: Emeritus Global Career Impact Survey, August 2023

Program Curriculum

Drawing on the latest technical expertise of leading practitioners and the highly focused learning experiences from Emeritus instructional designers, this program equips you with the knowledge and skills needed to confidently use Azure tools for data engineering. Through the program, you will learn to:

- Develop and analyze relational and nonrelational databases to create the best solution for your use case

- Use Azure tools, services, and best practices to migrate SQL workloads to the cloud

- Manage data with data warehousing technologies to make it available in an easy-to-use format for end users

- Facilitate data analytics and implement AI/ML algorithms to help your organization develop solutions for faster, more informed decision making

- Establish data security, privacy, and compliance best practices to protect data stored in the cloud

- Support a broad range of organizational tasks, including storage, computing, and networking, through data engineering tools and best practices

Azure Architecture and Services I

Build fundamental knowledge of Azure tools and services. Then, discover Azure's capabilities through interactive lab simulations that give you the opportunity to practice essential skills, including managing resources, designing and implementing virtual networks, and configuring role-based access control.

Key Takeaways

- **Introduction:** Gain foundational knowledge of cloud basics, Azure models, and resource optimization.

- **Management and Monitoring:** Learn to use Azure tools for efficient resource management.

- **Computing Services:** Explore Azure's Virtual Machines, App Service, containers, and Functions.

- **Networking:** Learn secure data transfer and leverage Azure's networking services.

- **Identity and Security:** Focus on ensuring a secure cloud environment with Azure Active Directory, Policy, and role-based active control.

- **Storage Services:** Understand the application of Azure's storage tools for various data requirements.

Module 1: Introduction to Cloud Computing and Azure Fundamentals

Module 2: Azure Architecture and Monitoring

Module 3: Azure Architecture and Services: Compute

Module 4: Azure Architecture and Services: Network

Module 5: Azure Identities, Governance, and Security

Module 6: Azure Architecture and Services: Storage and Core Services

Azure Architecture and Services II

Continue to explore Azure's tools, services, and applications, and learn how to back up and restore files. Then, identify essential exam preparation resources and review core concepts for the AZ-900, DP-900, and AZ-104 certifications, and become familiar with additional requirements that must be satisfied prior to sitting for the exam.

Key Takeaways

- **AI Application Deployment:** Apply Azure skills to deploy applications through containers, Azure Container Registry, and App Service.

- **Relational Databases:** Gain firsthand experience in data organization, T-SQL usage, and database creation in Azure SQL.

- **Nonrelational Databases:** Become practiced in Azure Cosmos DB's NoSQL features, APIs, and optimal storage solutions.

- **Data Analytics:** Discover the power of Azure to drive more informed decision making through its data processing, transformation, and analysis capabilities.

- **Resource Monitoring and Backup:** Learn to manage, monitor, and recover cloud resources using Azure Backup, Log Analytics, VM Insights, and Network Watcher.

- **Preparation for Microsoft Certifications:** Get a head start on preparing for your Azure certifications with an overview that covers key concepts and practice questions for three of the exams.

Module 7: Deploying an AI Application to the Cloud

Module 8: Relational Database Fundamentals

Module 9: Nonrelational Database Fundamentals

Module 10: Data Analytics in Azure

Module 11: Resource Monitoring and Backup

Module 12: Microsoft Certifications

Data Engineering in Azure

Building on the knowledge and skills you developed in the first half of the program, discover and experience Azure's powerful data engineering capabilities. Explore Azure Synapse Analytics, understand data warehouse fundamentals, and learn how to move and transform data.

Key Takeaways

- **Data Engineering Basics:** Dive into the core principles of designing, constructing, and managing data processing systems in Azure.

- **Serverless SQL in Action:** Understand the nuances of deploying data analytics with Azure Synapse Serverless SQL pools.

- **SQL On-Demand:** Grasp the key components of Azure Synapse Serverless SQL, emphasizing query execution without infrastructure considerations.

- **Performance at Scale:** Delve into dedicated SQL pools in Azure Synapse, concentrating on performance tuning, provisioning, and scalability.

- **Data Integration Simplified:** Discover the integral roles of Azure Data Factory in ETL and ELT processes and get to know the platform's key features.

- **Advanced Data Movement:** Explore the deeper functionalities of Azure Data Factory, emphasizing pipeline tuning, monitoring, and problem-solving.

Module 13: Data Engineering in Azure

Module 14: Building Data Analytics Solutions Using Azure Synapse Serverless SQL Pools

Module 15: Azure Synapse Apache Spark Pools

Module 16: Foundations of Data Warehouses

Module 17: Exploring Data Pipelines

Module 18: Data Integration at Scale

Data Engineering in Azure II

In the final six weeks of the program, you will learn how to streamline your work by using Azure's powerful data capabilities to optimize data processing, gain real-time insights, ensure data compliance, manage big data effectively, and implement data governance practices. During this time, you will complete a capstone project, giving you the opportunity to highlight your proficiency in Azure.

Key Takeaways

- **Efficient Data Processing:** Discover how to create efficiencies through Azure's hybrid transactional and analytical data processing capability.

- **Real-Time Insights:** Learn how to leverage Stream Analytics' real-time data processing functionality for timely insights.

- **Data Compliance:** Understand how to implement compliance policies and practices using Azure Policy.

- **Big Data Management:** Gain skills in managing and processing large datasets effectively.

- **Data Governance:** Learn how to establish effective data governance practices to ensure data quality, security, and compliance with regulations.

Module 19: Hybrid Transactional and Analytical Processing Solutions

Module 20: Data Streaming with Azure Stream Analytics

Module 21: Data Governance

Module 22: Data Engineering with Azure Databricks

Module 23: Microsoft Certification DP-203

Module 24: Capstone

Hands-On Learning

Azure tools covered in this program
Build a strong foundation in using Azure tools for data engineering and deploying data analytics, showcasing your Azure proficiency.

- Azure CLI
- Azure Monitor
- Azure DNS
- Azure Active Directory
- Azure Load Balancer
- Azure role-based access control (RBAC)
- Azure Storage Explorer
- Azure Data Lake Storage
- Azure Cosmos DB

- Azure Synapse Analytics
- Azure Stream Analytics
- Azure Log Analytics
- Azure VM Insights
- Azure SQL
- Apache Spark
- Synapse Studio
- Azure Data Factory
- Azure Databricks

Note: An additional fee may be applicable to use some Azure tools within the learning environment. Please connect with an academic advisor for more details.

Capstone Project

A key component of this program is the experiential capstone project that gives you an opportunity to apply the data engineering tools and concepts you have learned. In this end-to-end pipeline project, you will focus on different areas of data processing using Azure's cloud services, beginning with data collection and storage. This will give you an idea of how to handle data in real time as well as keep it safe and accessible in the cloud. You will then transform the collected data using Azure Data Factory (ADF) and analyze it using Azure Databricks. The project helps you demonstrate your proficiency in Azure-based data engineering by diving deep into your data, performing detailed analyses and creating visualizations.

Faculty

Amish Suchak
Data Science Team Lead, XSOLIS

Amish Suchak is a data science lead at XSOLIS, an artificial intelligence technology organization developing a more efficient healthcare system. His realm of expertise encompasses data science, data engineering, and machine learning. His knowledge and skills have enabled him to successfully transform raw data into actionable insights and push the boundaries of the healthcare industry.

Amish Suchak's work focuses on designing and implementing advanced products that address the complex challenges of the healthcare industry. His responsibilities at XSOLIS extend beyond traditional data science to the strategic development and implementation of solutions that streamline healthcare workflows and enhance patient care outcomes. He looks forward to continuing this work, contributing to advancements in healthcare technology, and navigating the exciting path that lies ahead in the field of data engineering.

Kaushal Patel
Front-End Developer Consultant, NASA

Kaushal Patel's work focuses on designing and developing responsive web applications using the latest front-end technologies, including Angular and React for a broad range of clients. He is currently working with NASA, contributing his expertise to a variety of projects. His extensive experience includes leveraging AWS and Azure services to build highly scalable web applications that offer optimized application infrastructures, improved security, and enhanced user experiences.

Career Preparation and Guidance

Success in data engineering requires both hard and soft skills. This program offers you guidance for navigating your career path, from crafting your elevator pitch to perfecting your interview skills.

The career preparation you will receive in this program includes:

- 19 hours of career development activities

- 8 hours of optional career support activities

- One-on-one sessions with experienced industry practitioners to understand the field, career paths, and the day-to-day, on-the-job experience

Note: The primary goal of this program is to equip you with the skills needed for a job in data engineering. Job placement is not guaranteed.

Certificate

The Professional Certificate in Data Engineering with Microsoft Azure, offered by Emeritus and integrated with Microsoft Learn is a path to new career opportunities and advancement in the field. Participants who successfully complete the program will earn a verified digital certificate of completion from Emeritus, validating your proficiency in the Microsoft Azure suite of data engineering services. This program is graded as a pass or fail. Participants must achieve 80 percent to pass and obtain a certificate of completion.

After successful completion of the program, your verified digital certificate will be emailed to you at no additional cost in the name you used when registering for the program. All certificate images are for illustrative purposes only and may be subject to change at the discretion of Emeritus.

EMERITUS
Learn. From the world's best.

Connect with a Program Advisor

Email: learner.success@emeritus.org

Phone: +1 315 757 4382 (U.S.)
+44 1416 736415 (U.K.)
+65 3138 5305 (Singapore)

To speak with a program advisor

Schedule A Call

You can enroll in the program here

Apply Now

Refer your colleague and receive a benefit

Refer Now

Duration
6 months, online
15–20 hours per week

Program fee
US$3,000