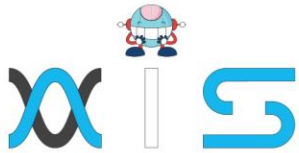


Professional Certificate Program in Data Engineering

University Program

Course Outline





Course Overview:

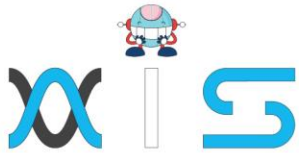
Accelerate your career with this acclaimed Professional Certificate Program in Data Engineering, in collaboration with Purdue University and in collaboration with IBM. This program provides a perfect mix of theory, case studies, and extensive hands-on practice. Learners will receive a comprehensive data engineering education, leveraging Purdue's academic excellence in data engineering and Simplilearn's partnership with IBM.

This program is designed to give experienced professionals, coming from diverse backgrounds, an extensive data engineering education through a blend of online self-paced videos, live virtual classes, hands-on projects, and labs. Learners will also get access to mentorship sessions that provide a high-engagement learning experience and real-world applications to help master essential data engineering skills. You'll learn the implementation of data engineering concepts such as distributed processing using the Hadoop framework, large scale data processing using Spark, building data pipelines with Kafka, and working with databases both on on-premise, AWS and Azure cloud infrastructures.

Key Features:

- Joint certificate from Purdue University and Simplilearn
- 180+ hours of Applied Learning 14+ hands-on projects
- Capstone project in 3 Domains
- Masterclasses from Top Purdue Faculty and Industry Experts at IBM
- Eligible for Purdue Alumni Association Membership
- Curriculum aligned with Microsoft Azure (DP-203), AWS (DAS-C01), and Cloudera (CCA175) certifications
- Exclusive Mentoring Sessions and Hackathons by IBM





About the Professional Certificate Program in Data Engineering in collaboration with Purdue University;

Purdue University, a top public research institution, is providing higher education at its highest proven value. Committed to student success, Purdue is changing the student experience with a greater focus on faculty-student interaction and creative use of technology.

This Professional Certificate Program in Data Engineering in partnership with Purdue University will open pathways for you in the data engineering field, which has its presence in all the industry sectors and verticals - including manufacturing, healthcare, and ecommerce. Upon completing this program, you will receive a Certificate in collaboration with Purdue University. Upon completing this program, you will receive a Purdue certification of completion.

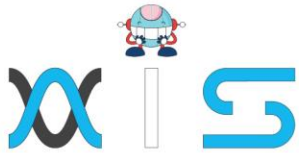
Program Eligibility Criteria and Application Process

Those wishing to enroll in the Professional Certificate Program in Data Engineering in collaboration with Purdue University will be required to apply for admission to the program.

Eligibility Criteria

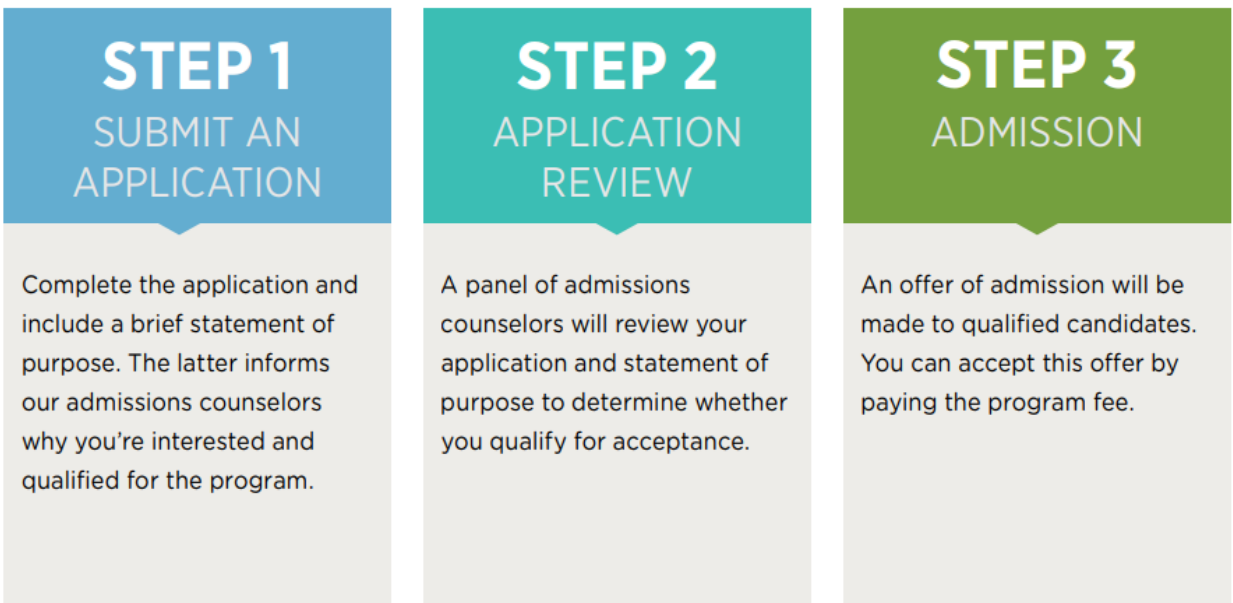
For admission to this Professional Certificate Program in Data Engineering, candidates should have:

- A bachelor's degree with an average of 50% or higher marks
- 2+ years of work experience (preferred)
- Basic understanding of object-oriented programming (preferred)



Application Process

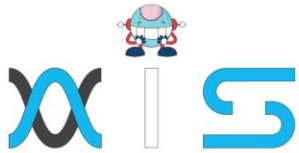
The application process consists of three simple steps. An offer of admission will be made to the selected candidates and accepted by the candidates by paying the admission fee.



Talk to an Admissions Counselor

We have a team of dedicated admissions counselors who are here to help guide you in applying to the program. They are available to:

- Address questions related to the application
- Assist with financial aid (if required)
- Help you resolve your questions and understand the program



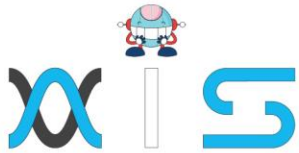
Program Outcomes:

- Gather data requirements, access data from multiple sources, process data for business needs, and store data on the cloud as well as on-premises
- Gain insights into how to improve business productivity by processing Big Data on platforms that can handle its volume, velocity, variety, and veracity
- Get a solid understanding of the fundamentals of the Scala language, its tooling, and the development process
- Master the various components of the Hadoop ecosystem, such as Hadoop, Yarn, MapReduce, Pig, Hive, Impala, HBase, ZooKeeper, Oozie, Sqoop, and Flume
- Identify AWS concepts, terminologies, benefits, and deployment options to meet business requirements
- Understand how to use Amazon EMR for processing data using Hadoop ecosystem tools Understand how to use Amazon Kinesis for Big Data processing in real-time
- Analyze and transform Big Data using Kinesis Streams and visualize data and perform queries using Amazon QuickSight
- Implement data storage solutions; manage and develop data processing; and monitor and optimize data solutions using Azure Cosmos DB, Azure SQL Database, Azure Synapse Analytics, Azure Data Lake Storage, Azure Data Factory, Azure Stream Analytics, Azure Databricks, and Azure Blob storage services
- Apply the knowledge, skills, and capabilities gathered throughout the program to build an industry-ready product

Who should enroll in this program?

This program caters to graduates in any discipline and working professionals from diverse backgrounds who have basic programming knowledge. The diversity of our students adds richness to class discussions and interactions. A data engineer builds and maintains data structures and architectures for data ingestion, processing, and deployment for large-scale, data-intensive applications. It's a promising career for both new and experienced professionals with a passion for data, including:

- IT professionals Database administrators



- Beginners in the data engineering domain
- BI Developers
- Data science professionals who want to expand their skill set
- Students in UG/ PG programs

Learning Path:

1. Big Data for Data Engineering
2. Big Data Hadoop and Spark Developer
3. AWS Technical Essentials
4. Big Data on AWS
5. Azure Fundamentals
6. Azure Data Engineer
7. Data Engineering Capstone

(☆) **Master's Certificate**

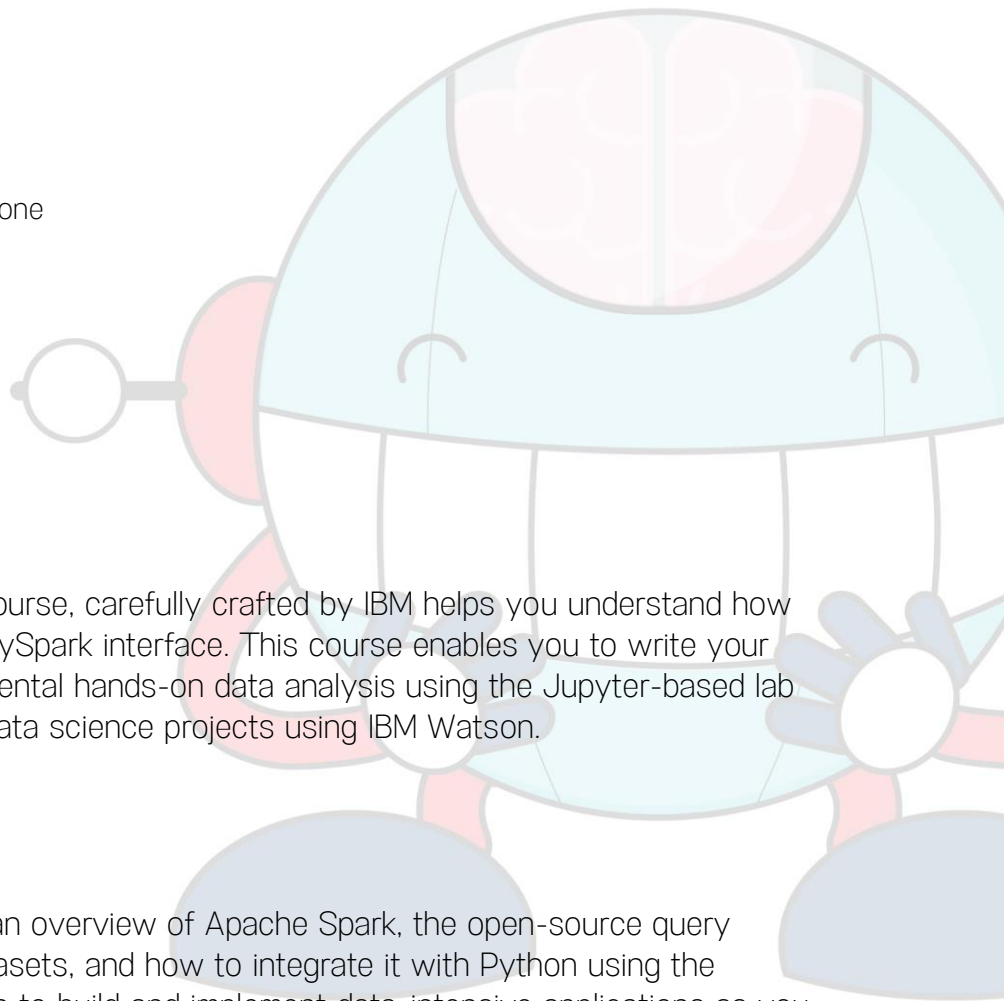
Electives:

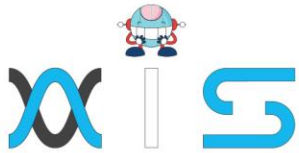
Python for Data Science

The Python for Data Science course, carefully crafted by IBM helps you understand how to integrate Python using the PySpark interface. This course enables you to write your Python scripts, perform fundamental hands-on data analysis using the Jupyter-based lab environment, and create your data science projects using IBM Watson.

Pyspark

This PySpark course provides an overview of Apache Spark, the open-source query engine for processing large datasets, and how to integrate it with Python using the PySpark interface. You will learn to build and implement data-intensive applications as you dive into the world of high-performance machine learning and leverage Spark RDD, Spark SQL, Spark MLlib, Spark Streaming, HDFS, Sqoop, Flume, Spark GraphX, and Kafka.





Apache Kafka

In this Apache Kafka course, you will learn the architecture, installation, configuration, and interfaces of Kafka open-source messaging. You will gain a fair understanding of basics of Apache ZooKeeper as a centralized service and develop the skills to deploy Kafka for real-time messaging.

MongoDB Developer and Administrator

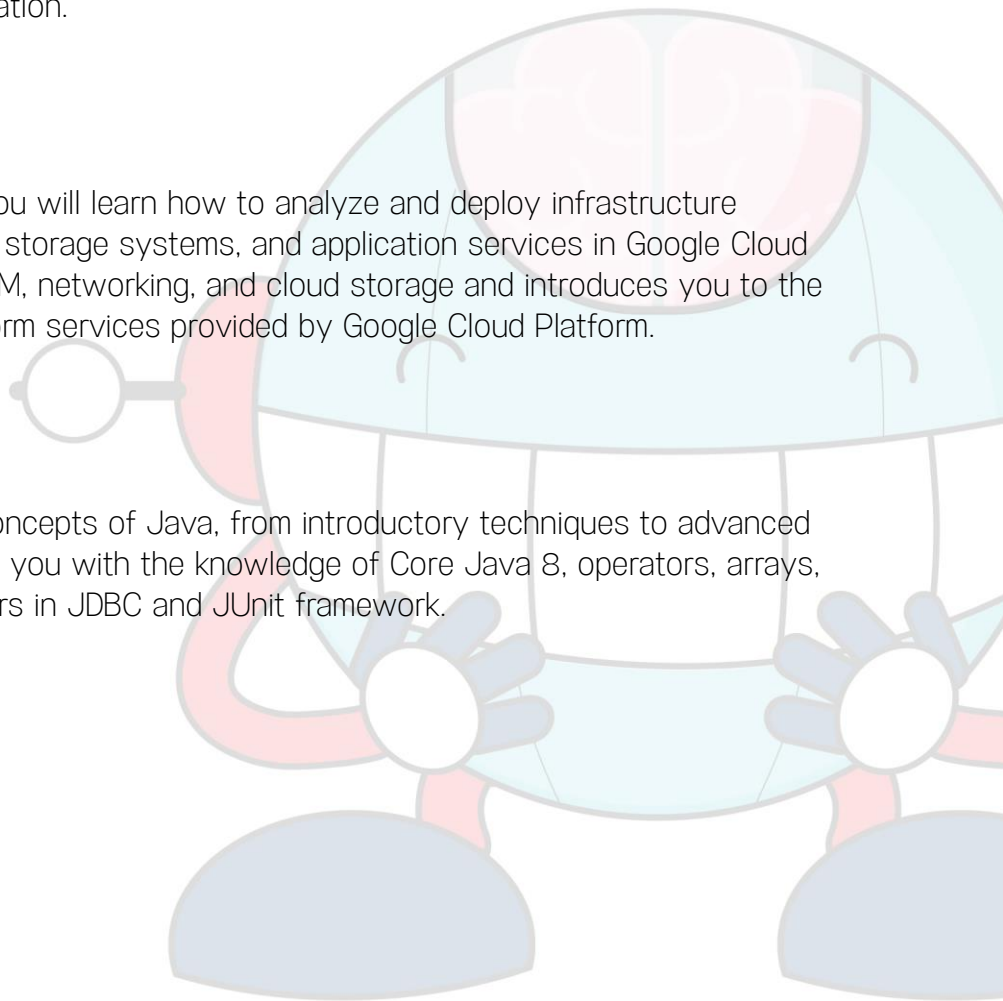
This course provides you an in-depth knowledge of NoSQL, data modeling, ingestion, query, sharding, and data replication.

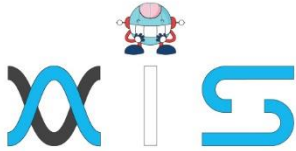
GCP Fundamentals

In GCP Fundamentals course, you will learn how to analyze and deploy infrastructure components such as networks, storage systems, and application services in Google Cloud Platform. This course covers IAM, networking, and cloud storage and introduces you to the flexible infrastructure and platform services provided by Google Cloud Platform.

Java Training

This Java course covers the concepts of Java, from introductory techniques to advanced programming skills and provides you with the knowledge of Core Java 8, operators, arrays, loops, methods, and constructors in JDBC and JUnit framework.





AIS

With the rising demand in scalable technology, AIS provides tailored goal-setting based on your organization's needs and expectations. With products geared towards the growing needs of your organization's customers and employees, AIS has innovative and value-driven solutions.

Learning Partners



SAS Management, Inc.

SAS Management, Inc. has been a leader in the training, certification and consulting services industry in the Philippines. With offices in Makati, Ortigas and Cebu, Philippines, the company has been the top training and consulting company for over 9 years. In its years of existence, it has provided certificates to over 100,000 professionals including 10,000 participants in the 160+ courses that have been conducted just during the 2020-2021 pandemic alone. The most sought-after courses being offered are ITIL, Project Management Professional (PMP)®, COBIT 5, Six Sigma Yellow Belt, Six Sigma Green Belt, PRINCE2, and organizational skills, among others.



Simplilearn

Simplilearn, based in California and India, is the world's #1 online bootcamp and one of the world's the leading certification and training providers. Simplilearn trained over 2,000,000 professionals with 2,000+ trainers and provides over 400 different courses.

Technology Partner



Freshworks

With over 40,000 customers, Freshworks is a business solutions software provider with products ranging from IT helpdesk and service desk, customer relationship management, live chat, marketing automation, phone system, and HR.

Partners & Affiliates

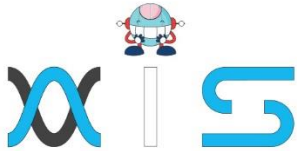


PECB

SDI Service Desk Institute

EC-COUNCIL





The program presented, as well as a wide range of programs are products of the partnership of AIS, SAS Management, Inc., and Simplilearn. With a common goal of providing the best practice of facilitating learning with an array of choices available in the online platform in this time of digitization.

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