

COURSE OVERVIEW

Full Course Title: Azure Data Engineering

Instructional Hours (Contact Hours): 50

Course Description:

This hands-on course is designed to provide students with a comprehensive understanding of data engineering principles and methodologies, with a strong emphasis on practical applications. Participants will gain practical skills and experience in leveraging data engineering techniques by using **Microsoft Azure**. The course covers a range of topics, including data warehouse, data base, processing real-time data, preparing students for real-world scenarios in various industries.

Learning Outcomes:

- Design and implement data storage
- Design and develop data processing
- Design and implement data security
- Monitor and optimize data storage and data processing

Learning Activities:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Class Discussions/Discussion Boards | <input checked="" type="checkbox"/> Student Projects |
| <input checked="" type="checkbox"/> Peer-to-Peer Work (pairs, small groups) | <input checked="" type="checkbox"/> Readings |
| <input checked="" type="checkbox"/> Written Assignments (reports, essays) | <input checked="" type="checkbox"/> Textbook/Workbook Exercises |
| <input checked="" type="checkbox"/> Case Study Analysis | <input type="checkbox"/> Other: Click to enter |

Methods of Assessment/Grading Criteria:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Class/Discussion Boards Participation | <input checked="" type="checkbox"/> Individual Projects/Presentations |
| <input checked="" type="checkbox"/> Written Assignments (reports, essays) | <input checked="" type="checkbox"/> Group Projects/Presentations |
| <input checked="" type="checkbox"/> Exams/Quizzes | <input type="checkbox"/> Other: Click to enter |

Course Topics:

- Store large amounts and different types of data in storage accounts
- Create databases and tables
- Process real-time and batch data using Stream Analytics
- Perform Machine Learning techniques using Azure Databricks
- Perform ETL using Data Factory

Prerequisites:

Previous knowledge of SQL will be helpful.