COURSE OUTLINE

Course Number	Course Title	Credits
		3
IST 265	**Database Cloud Computing Concept**	

Hours: Lecture/Lab/Other 2/2/0	Co- or Pre-requisite IST 109 and IST253; IST 262	Implementation Semester & Year Fall 2022

Catalog description:
Database Cloud Computing Concept teaches database deployment that uses cloud platforms to program and administer database in a variety of cloud computing scenarios while managing the platform for scalability, troubleshooting performance issues, and implementing strong security.

General Education Category:
Not GenEd

Course coordinator:
Queen E. Okike, Ed. D.
(609) 570-3464, okikeq@mccc.edu

Required texts & Other materials:
Database Cloud Storage: The Essential Guide to Oracle Automatic Storage Management (Oracle (McGraw-Hill)) 1st Edition, Kindle Edition.
ISBN-13 **978-0071790154**
Read with the free Kindle apps (available on iOS, Android, PC & Mac), Kindle E-readers and on Fire Tablet devices.

Course Student Learning Outcomes (SLO):
1. Explain how to use SQL Azure from classic Windows applications, ASP.NET and Windows Communication Foundation. [Support ILG# 1, 4, 10, 11; PO#1]
2. Create Database Cloud. [ILGs #4, 10, 11; PO# 2, 3]
3. Perform management, performance, scalability, and troubleshooting. [ILGs #4, 10, 11; PO# 2, 3]
4. Address all-important issue of securing the data. [ILGs #4, 10, 11]
5. Properly design for high-performance in a cloud environment. [ILGs #4, 10, 11
6. Adopt the new Federations feature in SQL Azure. [ILGs #4, 10, 11; PO# 2, 3]

Course-Specific Institutional Learning Goals (ILG):
Institutional Learning Goal 1. Written and Oral Communication in English. Students will communicate effectively in both speech and writing.
Institutional Learning Goal 4. Technology. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.
Institutional Learning Goal 10. Information Literacy: Students will recognize when information is needed and have the knowledge and skills to locate, evaluate, and effectively use information for college level work.
Institutional Learning Goal 11. Critical Thinking: Students will use critical thinking skills understand, analyze, or apply information or solve problems.

Program Learning Outcomes for Information Technology Database Certificate (PLO)

1. Explain basic concepts of databases;
2. Code using Oracle Structured Query (SQL) Language;
3. Deploy databases on cloud platform.

Units of study in detail – Unit Student Learning Outcomes:
Units of study in detail.

Unit I Getting Started with SQL Database [Supports Course SLOs #1]
Learning Objectives
The student will be able to…
- Discuss SQL Database.
- Explain Cloud Computing.
- Create a SQL Database Instance.
- Create the first database in cloud.
- Create logins and users.
- Explain billing for SQL Database.

Unit II Design Considerations. [Supports Course SLOs #2]
Learning Objectives
The student will be able to…
- Explain design factors.
- Discuss design patterns.
- Discuss combining patterns.
- Explain SaaS Applications and Federations.

Unit III Security. [Supports Course SLOs #3, 4]
Learning Objectives
The student will be able to…
- Discuss confidentiality. Integrity and availability.
- Secure data by encryption, hashing and certificates.
- Access control using authentication, authorization, SOL Database Firewalls and Internal Firewalls.
- Migrate databases and data cloud
- Define application deployment. Factors.
- Create a data service, connect it to models and create client application.

Unit IV Window Azure and ASP.NET [Supports Course SLOs # 5]
Learning Objectives
The student will be able to…
- Create SQL reports, configure SQL Data synchronization
- Create cloud service.
- Deploy ASP.NET application in Window Azure.
- Define high performance concepts
- Build and manage shard.

Unit V Window Azure Mobile Services [Supports Course SLOs # 6]
Learning Objectives
The student will be able to…

- Discuss Azure mobile services.
- Browse data, create columns, permissions and scripts.
- Create advance settings such as push, identity and scale.

Evaluation of student learning:	
The final grade is a composite based upon: Successful completion of Projects	50%
Online assigned Tests/Quizzes	20%
Midterm evaluation examination	15%
Final evaluation examination	15%
Total	100%