BAKER COLLEGE
STUDENT LEARNING OUTCOMES

CIS3310 Introduction to Cloud Computing and Security
3 Semester Credit Hours

Student Learning Outcomes and Enabling Objectives

1. Explore basic concepts of new technologies in cloud computing.
    a. Describe cloud computing concepts.
    b. Explore cloud computing architectures.
    c. Analyze cloud computing applications.
2. Analyze the fundamentals of a cloud computing ecosystem and its characteristics.
    a. Define Cloud Computing Life Cycle (CCLC).
    b. Explain the load balancing approach.
    c. Explore Mobile Cloud Computing (MCC).
    d. Describe the Google App Engine (GAE).
3. Assess advantages and disadvantages of cloud computing systems.
    a. Assess various cloud computing platforms (e.g. Microsoft Azure, Amazon Web Services, Open Nebulla, Eucalyptus, Open Stack, Nimbus, and The Apache Hadoop Architecture).
    b. Recommend a specific cloud computing platform based on its advantages and disadvantages in various real-life scenarios and applications.
4. Evaluate the cloud's business and economic impact.
    a. Explain Virtualization and Service-Oriented Architecture (SOA).
    b. Create different user categories for cloud computing systems.
    c. Describe cloud computing applications (e.g. Google Apps, Dropbox Cloud, and Apple iCloud)
    d. Describe uses of cloud computing applications in various sectors (e.g. Education, Healthcare, Politics, Business, Agriculture, etc.).
5. Analyze the drivers of cloud computing adoption and the future of cloud computing.
    a. Identify factors that motivate enterprise decision-makers to adopt cloud computing technology.
    b. Describe effective strategies for migration to the cloud.
    c. Analyze risks involved in the migration to the cloud.
    d. Investigate future trends in cloud computing.

Big Ideas and Essential Questions

Big Ideas

- Cloud computing
- Anything-as-a-Service (Xaas)
- Software-as-a-Service (SaaS)
- Platform-as-a-Service (PaaS)
- Infrastructure-as-a-Service (IaaS)

Essential Questions

1. What is cloud computing?
2. What do you need to consider when designing a cloud computing system for specific user categories and applications?
3. How are the main types of cloud computing models and services different?
4. How can legacy information systems be effectively transitioned to the cloud?
5. How do enterprise information and application needs influence the selection of the most effective cloud computing models and services?
6. What are the most effective security strategies for protection of cloud computing system from various types of threats and intrusion?

These SLOs are approved for experiential credit.

Effective: Spring 2022