

**Course Outline for CIS 82A**

**AWS CLOUD PRACTITIONER CERTIFICATION PREP**

**Effective: Spring 2020**

**I. CATALOG DESCRIPTION:**

CIS 82A — AWS CLOUD PRACTITIONER CERTIFICATION PREP — 2.00 units

This introductory course provides an overview of cloud concepts, Amazon Web Services (AWS) core services, basic security, architecture principles, pricing, and technical support. Students gain an overall understanding of the AWS Cloud, independent of specific technical roles. Review of core characteristics of deploying and operating in the AWS Cloud. This course prepares students to pursue becoming an AWS Certified Cloud Practitioner using official AWS Academy Cloud Foundations material.

2.00 Units Lecture

**Strongly Recommended**

CIS 81A - Introduction to Cloud Computing with a minimum grade of C

**Grading Methods:**

Letter or P/NP

**Discipline:**

- Computer Information Systems

	<b>MIN</b>
<b>Lecture Hours:</b>	36.00
<b>Expected Outside of Class Hours:</b>	72.00
<b>Total Hours:</b>	108.00

**II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1**

**III. PREREQUISITE AND/OR ADVISORY SKILLS:**

**Before entering this course, it is strongly recommended that the student should be able to:**

- A. CIS81A
  1. Describe the cloud computing model, history, vendor perspectives and industry offerings.
  2. Describe the process to obtain an Amazon Web Services (AWS) and/or Microsoft AZURE account and establish an account via AWS or AZURE.
  3. Describe examples of infrastructure as a service, platform as a service, and software as a service.
  4. Use current cloud services from a leading service provider.

**IV. MEASURABLE OBJECTIVES:**

**Upon completion of this course, the student should be able to:**

- A. Define what the AWS Cloud is and the basic global infrastructure
- B. Describe the key services on the AWS platform and their common use cases
- C. Describe basic AWS Cloud architectural principles
- D. Describe basic security and compliance aspects of the AWS platform and the shared security model
- E. Define the billing, account management, and pricing models
- F. Identify sources of documentation or technical assistance (e.g., whitepapers, support tickets)

**V. CONTENT:**

- A. Cloud Concepts
  1. What is Cloud Computing?
  2. Introduction to Cloud Economics
  3. AWS Global Infrastructure Overview
- B. AWS Core Services
  1. Core Service Introduction
  2. Compute Services
  3. Storage Services
  4. Amazon VPC

- 5. Database Services
- C. AWS Security
  - 1. AWS Shared Responsibility Model
  - 2. AWS Access Identity and Access Management (IAM)
  - 3. AWS Trusted Advisor
  - 4. AWS CloudTrail
  - 5. AWS Config
  - 6. AWS Day One Best Practice Review
  - 7. AWS Security and Compliance Programs
  - 8. AWS Security Resources
- D. AWS Architecting
  - 1. Introduction to the Well-Architected Framework
  - 2. Well-Architected Design Principles
  - 3. Understanding Reliability and High Availability
- E. Cloud Support
  - 1. Overview of AWS Technical Support Plans and Costs

#### VI. METHODS OF INSTRUCTION:

- A. **Lecture** - Lecture on AWS certifications
- B. **Written Exercises** - Examine Software as a Service, examples and case studies
- C. **Lab** - Hands-on computer lab activities using AWS cloud account

#### VII. TYPICAL ASSIGNMENTS:

- A. After reading a case study, create a justification and proposal for working with cloud enabling technology that meets the stated requirements
- B. Working with a cloud service (Google or Microsoft), create a shared document and a shared calendar
- C. Working with a cloud service (AWS or AZURE), create and host a website

#### VIII. EVALUATION:

##### **Methods/Frequency**

- A. Exams/Tests
  - final exam
- B. Quizzes
  - frequent 4-10
- C. Lab Activities
  - 70% hands-on lab activities

#### IX. TYPICAL TEXTS:

- 1. Sarkar, Aurobindo. *Learning AWS: Design, Build, and Deploy Responsive Applications using AWS Cloud Components*. 2 ed., Packt Publishing, 2018.
- 2. Lucifredi, Ryan. *AWS System Administration*. 1 ed., O'Reilly Publishers, 2018.

#### X. OTHER MATERIALS REQUIRED OF STUDENTS:

- A. Web browser: any HTML 5 compliant web browser
- B. AWS account: free for students