Montgomery County Community College
CIS 206
AWS Solutions Architect
3-2-2

COURSE DESCRIPTION:
This course is designed to teach solutions architects how to optimize AWS Cloud resources and services to build an optimal Information Technology infrastructure. Course topics will include in-depth analysis of AWS services and the Well-Architected framework. This course will help students prepare for the AWS Solutions Architect exam.

PREREQUISITE(S):
CIS 205: AWS Cloud Practitioner

LEARNING OUTCOMES:
Upon successful completion of this course, the student will be able to:

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
1. Explain the key pillars of the AWS Well-Architected Framework.	Lecture/Discussion Homework Assignments Assigned readings	Discussion/Questions Projects Tests/Quizzes
2. Design solutions which use AWS Well-Architected Framework. to build a scalable, reliable, and highly available IT infrastructure.	Lecture/Discussion Homework Assignments Assigned readings	Discussion/Questions Projects Tests/Quizzes
3. Analyze efficiency, costs, and performance of AWS Cloud-based solutions.	Lecture/Discussion Homework Assignments Assigned readings	Discussion/Questions Projects Tests/Quizzes
4. Utilize AWS tools to build, configure, and monitor services and resources.	Lecture/Discussion Homework Assignments Assigned readings Hands-on lab simulations	Discussion/Questions Project presentations Tests/Quizzes Case Studies
5. Prepare for the AWS Solutions Architect exam.	Lecture/Discussion	Practice Tests Discussion

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Director of Educational Effectiveness. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria.*

SEQUENCE OF TOPICS:

Part 1: The Core AWS Services
1. Review: Cloud Computing and AWS
2. Amazon Elastic Compute Cloud and Amazon Elastic Block Store

3. Amazon Simple Storage Services and Amazon Glacier Storage
4. Amazon Virtual Private Cloud
5. Databases
6. Authentication and Authorization – AWS Identity and Access Management
7. CloudTrail, CloudWatch and AWS Config
8. The Domain Name System and Network Routing: Amazon Route 53 and CloudFront

Part 2: The Well-Architected Framework
1. The Reliability Pillar
2. The Performance Efficiency Pillar
3. The Security Pillar
4. The Cost Optimization Pillar
5. Operational Excellence Pillar

Part 3: Cloud computing implementation case studies
1. Use the Well-Architected Framework to design and implement AWS Cloud based solutions.
2. Leverage AWS services to make an AWS infrastructure solution scalable, reliable, and highly available.
3. Evaluate cost vs. performance in a variety of AWS computing models.

Part 4: Exam Preparation
1. Navigate the logistics of the AWS examination process.
2. Understand how concepts and decision making are translated into exam questions.
3. Review key elements of the exam.
4. Complete practice tests in preparation for the exam.

LEARNING MATERIALS:
AWS Certified Solutions Architect Study Guide: Associate SAA-C02 Exam (Aws Certified Solutions Architect Official: Associate Exam) 3rd Edition
Authors: Ben Piper and David Clinton, Publisher: Sybex, December 2020

ISBN: 978-1119713081

COURSE APPROVAL:
Revised by: Marie Hartlein   Date: 12/1/2020
VPAA or designee Compliance Verification: Date: 4/27/2021

This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.