COURSE TITLE: Breaking Down Cloud Security

COURSE NUMBER: SEC325

I. MAJOR INSTRUCTIONAL OBJECTIVES:

Objective 1: General Cloud concepts.
A-1: Define terms, concepts, and processes associated with Cloud Architecture.
A-2: Describe the major differences between Azure, AWS, and Google Cloud Platforms.
A-3: Identify and design the difference between on premises and cloud computing and the business requirements for implementation and migration.

Objective 2: Secure Cloud Environment Design
B-1: Describe basic internetworking fundamentals of Cloud Architecture.
B-2: Create and navigate the directory structure.
B-3: Create, manipulate and delete data, files and directories.
B-4: Determine and modify permission settings.
B-5: Manage processes.
B-6: Write simple shell scripts.
B-7: Perform basic system administration functions within Cloud Vendor Platforms.
B-8: Apply cloud application security principles with the three major cloud vendors.

Objective 3: Variety of Cloud Environments.
C-1: Compare and contrast SaaS, PaaS and IaaS environments.
C-2: Create designs and concepts within best practices of the different types of Cloud environments.
C-3: Identify the legal requirements to use Software as a Service in a cloud environment.
C-4: Summarize the principles of information technology as an operational expenditure versus a capital expenditure.

Objective 4: Cloud Environment Compliance.
D-1: Explain issues surrounding data protection, privacy, risk and compliance in a cloud environment.
D-2: Design protections and policy around the nuances of privacy and security in the cloud.
D-3: Describe the industry security standards, regulatory mandates, audit policies and compliance requirements for cloud-based infrastructures.
D-4: Demonstrate proficiency in data classification and securing data in the cloud.

Objective 5: Threats, Risks, Vulnerabilities and Privacy Issues Associated with Cloud Based IT services
E-1: Identify the known threats, risks, vulnerabilities and privacy issues associated with Cloud based IT services.
E-2: Design cloud services that meets essential Cloud infrastructure characteristics – on-demand computing, shared resources, elasticity and measuring usage.
E-3: Leverage Gartner IT Cloud Strategies for industry standard understanding of support.

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II. CLASS PARTICIPATION:

Students are expected to attend class and participate actively and in a positive way. Questions and relevant observations are encouraged and enrich the experience of the entire class. Computers in the classrooms are intended to be used as tools to enhance the students’ learning experience. Instant messaging, gaming, emailing, and surfing the web are distractions to the student, the surrounding students, and the instructor and constitute inappropriate behavior. Students are ethically obliged to avoid these and similar practices.