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Course Outline for CNT 7285

CLOUD INFRASTRUCTURE AND SERVICES

Effective: Spring 2015

I. CATALOG DESCRIPTION:
CNT 7285 — CLOUD INFRASTRUCTURE AND SERVICES — 3.00 units

This course covers the objectives of the CompTIA Cloud+ and EMC E20-002 Cloud Infrastructure and Services certification exams. Topic included are cloud deployment and service models, cloud infrastructure, and the key considerations in migrating to cloud computing, including compute, storage, networking, desktop and application virtualization. Additional areas of focus are backup/recovery, business continuity, security, and management.

1.00 Units Lecture 2.00 Units Lab

Strongly Recommended
CNT 62A - Cisco Networking Academy CCNA I
with a minimum grade of c
or

Grading Methods:
Letter or P/NP

Discipline:

	MIN
Lecture Hours:	18.00
Lab Hours:	108.00
Total Hours:	126.00

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. CNT62A

IV. MEASURABLE OBJECTIVES:

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

1. 1. Explain the importance and benefits of Cloud computing and the need for its rapid adoption 2. Explain roadmap for transformation from Classic to Cloud environment 3. Identify and differentiate various infrastructure components of classic and virtualized data center 4. Explain virtualization requirements and available tools at each layer of IT infrastructure 5. Explain business continuity options in a virtualized environment 6. Discuss effective cloud computing deployment models for businesses /IT organizations 7. Perform detailed exploration of cloud products and services 8. Describe infrastructure framework and service management activities in Cloud computing 9. Address security concerns commonly found in Cloud computing environments 10. Formulate high-level cloud migration strategy and best practices

V. CONTENT:
A. Journey to the Cloud
   1. History
   2. Trends
   3. Virtualisation
B. The Data Center
   1. Classic Data Center (CDC)
   2. Virtualized Data Center (VDC) - Compute
   3. Virtualized Data Center (VDC) -Storage
   4. Virtualized Data Center (VDC) -Networking
   5. Virtualized Data Center (VDC) -Desktop and Application
C. Business Continuity in VDC
   1. Cloud Computing Primer
   2. Cloud Infrastructure and Management
   3. Cloud Security
   4. Cloud Migration Considerations
D. Virtual Storage

1. Block-level and FIe-level Storage
2. Replication and Deduplication

E. Virtual structure
1. vSphere and vCenter
2. VMware Converter
3. vSphere Datastore Implementation
4. vSwitches - Networking in the VDC
5. Application management with ThinApp
6. Benefits of vMotion and vStorage
7. vCloud Director
8. Understanding vShield (App, Edge, and Endpoint)

VI. METHODS OF INSTRUCTION:
A. **Demonstration** -
B. **Lecture** -
C. **Lab** -
D. **Directed Study** -

VII. TYPICAL ASSIGNMENTS:

Typical Assignments

1.Read the textbook chapter on Virtualized Data Center-Compute. Compare and contrast the hardware resources required to host multiple web sites, including load balancing and redundancy.

2. Log on to the NETLAB+ virtual laboratory. Create and configure a virtual data center using vSphere and vCenter applications.

VIII. EVALUATION:
A. **Methods**

1. Exams/Tests
2. Quizzes
3. Lab Activities

B. **Frequency**

Weekly assignments

Periodic quizes and tests

Mid Term and Final Exam

IX. TYPICAL TEXTS:
1. Wilson , N. *CompTIA Cloud+ Certification Study Guide.* 1 ed., McGraw Hill, 2014.

X. OTHER MATERIALS REQUIRED OF STUDENTS:
A. Association of Computing Machinery ACM.org student membership