NWIT105: Introduction to Cloud Computing Study Guide

1. Course Overview

1.1 NWIT105 provides an introduction to:

• Fundamental characteristics of cloud environments

• Various cloud services and deployment models

• The role of virtualization

• Major cloud providers (AWS, Azure, Google Cloud)

1.2 Students also explore:

• Challenges in cloud deployment

• Security considerations in cloud environments

1.3 The course emphasizes AWS Academy - Cloud Foundation, with brief coverage of Azure and Google Cloud.

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2. Key Learning Outcomes

Upon completion, students will be able to:

2.1 Describe the evolution and advantages of cloud computing.

2.2 Compare the three main delivery models:

• Infrastructure-as-a-Service (IaaS)

• Platform-as-a-Service (PaaS)

• Software-as-a-Service (SaaS)

2.3 Explain the four common deployment models.

2.4 List security threats in cloud infrastructures.

2.5 Summarize cloud security controls and their application points.

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3. Course Structure and Materials

3.1 Textbook: AWS Academy - Cloud Foundation (Z course)

3.2 Supplementary Materials:

• Azure → docs.microsoft.com/learn

• Google Cloud → cloudskillsboost.google

3.3 Online Platform: Blackboard (announcements, assignments, materials)

3.4 Communication: Montgomery College email (must include “NWIT105 ….” in subject line)

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4. Assessment Breakdown

4.1 AWS Academy Knowledge Check: 20%

4.2 Projects: 15%

4.3 AWS Lab/Assignments: 30%

4.4 Microsoft Azure Lab: 10%

4.5 Google Cloud Lab: 5%

4.6 Participation/Discussion: 10%

4.7 Final Exam: 15%

• Total = 105% (allows scores above 100% for A grade)

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5. Important Policies

5.1 Attendance:

• Expected at all sessions

• Excessive absences = more than one absence beyond weekly class count

• May lead to being dropped

5.2 Assignments:

• Due electronically via Blackboard by 11:59 PM

• 24-hour grace period without penalty

5.3 Exams:

• No make-up exams allowed

• Exception: May take an exam earlier, never later

5.4 Academic Honesty:

• Must complete original work

• Dishonesty = serious offense

5.5 Technical Requirements:

• Regular use of computer + Internet

• Expect several hours online weekly

5.6 System Downtime:

• Scheduled Sunday maintenance (12:01 AM – 6:00 AM)

• Do not rely on this time to submit work

5.7 Withdrawal:

• Student responsibility to drop courses

• Non-participation or non-payment ≠ official withdrawal

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6. Study Strategies & Tips

6.1 Proactive Engagement: Check Blackboard at least once a week.

6.2 Time Management: Spend 1–3 hours outside class per class hour (~5+ hrs/week).

6.3 Active Participation: Engage in discussions respectfully and promptly.

6.4 Leverage Resources: IT Help Desk (240-567-7222) for tech issues.

6.5 NotebookLM:

• Summarize, organize, review notes

• Beginner tip: quickly distills info from uploaded sources

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7. Quiz Answer Key

7.1 Three Delivery Models: IaaS, PaaS, SaaS (fundamental resources, dev platform, ready-made apps).

7.2 Official Platform: Blackboard.

7.3 Beyond AWS: Includes Azure & Google Cloud → exposure to industry diversity.

7.4 Make-up Policy: No make-ups; exception = exam can be taken earlier.

7.5 Communication: Use MC email + include “NWIT105 ….” in subject line.

7.6 Grace Period: 24-hour late submission window with no penalty.

7.7 NotebookLM Purpose: Summarize, organize, review academic notes with study guides.

7.8 Time Expectation: 1–3 hours per class hour; ~5+ hrs/week.

7.9 Excessive Absences: >1 more than weekly class count → may be dropped.

7.10 Security Control Example: Preventative controls (e.g., MFA for access management).

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8. Essay Questions

8.1 Evolution & Advantages of Cloud Computing → real-world benefits.

8.2 Compare IaaS, PaaS, SaaS → practical examples & scenarios.

8.3 Identify 3 Security Threats → controls & effectiveness.

8.4 Academic Honesty & Participation → impact on learning environment.

8.5 Role of Virtualization → enables on-demand service, elasticity, efficiency.

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9. Glossary of Key Terms

9.1 AWS Academy: Primary platform for AWS curriculum.

9.2 Blackboard: Official online learning system.

9.3 Cloud Computing: Model for delivering computing services via Internet.

9.4 Cloud Delivery Models: IaaS, PaaS, SaaS.

9.5 Cloud Deployment Models: Public, Private, Hybrid, Community.

9.6 Cloud Security Controls: Measures to protect cloud data & infrastructure.

9.7 IaaS: Basic compute, storage, networking.

9.8 MC Email: Official communication channel.

9.9 NotebookLM: Note summarization/organization tool.

9.10 NWIT105: Course code for Introduction to Cloud Computing.

9.11 PaaS: Platform for app development & management.

9.12 SaaS: Ready-to-use apps delivered online.

9.13 Virtualization: Technology enabling multiple OS instances on one system.