

University of Computer Studies (Thaton)
2024-2025 Academic Year
Fourth Year (B.C.Sc.)
Lecture Plan

CS-4216 Strategies for Emerging Technology

Second Semester

Textbooks : [1] Cloud Computing Concepts, Technology & Architecture by Thomas Erl, Zaigham Mahmood and Ricardo Puttini, Prentice-Hall, 2013
 [2] Essentials of Cloud Computing by K. Chandrasekaran, 2015
 [3] Operating Systems, Internals and Design Principles, Ninth Edition, Global Edition

References : [1] Cloud Computing: Theory and Practice by Dan C. Marinescu
 [2] Handbook of Cloud Computing
 ▪ Hands-on Lab (<https://awseducate.instructure.com>)
 ▪ AWS Skill Builder (<https://skillbuilder.aws/>)

Prerequisite : NIL

Credit Unit : 3 ACUs

Periods : 64 periods for 16 weeks (4 periods * 16 weeks) (1 period -1 hr.)

No.	Topics	Week	Remarks
	Understanding Cloud Computing		Chapter 3
1	3.1. Origins and Influences 3.2. Basic Concepts and Terminology 3.3. Goals and Benefits 3.4. Risks and Challenges Summary Chapter Presentation: Chapter 1: Computing Paradigms (Cluster Computing, Grid Computing, Cloud Computing, Mobile Computing and so on) Textbook: 2 Hands-on Lab	Week 1-4	
	Fundamental Concepts and Models		Chapter 4
2	4.1 Roles and Boundaries 4.2 Cloud Characteristics 4.3 Cloud Delivery Models 4.4 Cloud Deployment Models Summary Chapter Presentation: Chapter 4: Cloud Deployment Models Textbook: 2 Hands-on Lab	Week 5-8	
	Cloud-Enabling Technology		Chapter 5

No.	Topics	Week	Remarks
3	5.1 Broadband Networks and Internet Architecture 5.2 Data Center Technology 5.3 Virtualization Technology 5.4 Web Technology 5.5 Multitenant Technology 5.6 Containerization Summary Chapter and Presentation Hands-on Lab	Week 9-12	
	Real Time and Embedded Operating Systems: Textbook 3		Chapter 10, 13
4	10.2 Real-Time Scheduling: Background and Characteristics of Real-Time Operating Systems 13.1 Embedded Systems 13.2 Characteristics of Embedded Operating Systems 13.3 Embedded Linux 13.4 Tiny OS Key Terms and Review Questions Summary Chapter and Presentation	Week 13-15	
	REVISION	Week 16	All

AWS Educate (<https://awseducate.instructure.com>) Lab

1. Introduction to Cloud 101 (<https://awseducate.instructure.com/courses/891>)
2. Introduction to the AWS Management Console (<https://awseducate.instructure.com/courses/909>)
3. Getting Started with Storage (<https://awseducate.instructure.com/courses/908>)
4. Getting Started with Compute (<https://awseducate.instructure.com/courses/907>)
5. Getting Started with Networking (<https://awseducate.instructure.com/courses/911>)
6. Getting Started with Databases (<https://awseducate.instructure.com/courses/912>)
7. Getting Started with Cloud Operations (<https://awseducate.instructure.com/courses/889>)
8. Getting Started with Security (<https://awseducate.instructure.com/courses/890>)
9. Getting Started with Serverless (<https://awseducate.instructure.com/courses/905>)
10. Builder Labs (<https://awseducate.instructure.com/courses/904>)

AWS Skill Builder (<https://skillbuilder.aws/>)

AWS Cloud Quest: Cloud Practitioner

(<https://explore.skillbuilder.aws/learn/course/external/view/elearning/11458/aws-cloud-quest-cloud-practitioner>)

Assessment Plan for the Course

Assignment	10 %
Tutorial	10%
Quiz	10 %
Presentation	20 %
Paper Exam	50 %