



Department of Computer Science

CS 4037 – Introduction to Cloud Computing

SPRING 2023

Instructor Name: Danyal Farhat

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Office Location/Number: Ground floor 07, CS Dept.

Office Hours: Wed 2 pm - 4 pm

TA Name (if any): N/A

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Course Information

Program: BS CS

Pre-requisites (if any): None

Course Website (if any): None

Class Meeting Time: Tue, Thu 02:30 – 03:50

Credit Hours: 3

Type: Elective

Class Venue: CS-04

Course Description/Objectives/Goals:

This course provides an introduction to cloud computing. It focuses on how the cloud works, rather than how cloud is to be used. Some seminal as well as recent research papers are included to provide the coverage of basics as well as state of the art in cloud computing research.

Course Learning Outcomes (CLOs):
At the end of the course students will be able to:
Demonstrate familiarity with the need and significance of cloud computing
Demonstrate familiarity with cloud service and deployment models
Demonstrate familiarity with virtualization, the Internet and other technologies enabling cloud computing
Demonstrate an understanding of the data center architecture
Use cloud computing in software development and/or take up research in cloud computing

Course Textbook

Student Handbook of the AWS Cloud Foundation Course.

Additional references and books related to the course:

1. [DCC] Distributed and Cloud Computing by Kai Huwang, Geoffrey C. Fox and Jack J. Dongarra
2. [MOS] Modern Operating Systems by Andrew S. Tanenbaum 4th edition
3. [AC] Architecting the cloud by Michael J. Kavis
4. [CCT] Cloud computing Concepts, Technology and Architecture by Thomas Erl
5. [CCP] Cloud Computing: Principles and Paradigms by Buyya R.
6. [MCC] Mastering Cloud Computing by Buyya R.

Tentative Weekly Schedule

Week	Topics to be covered	# Lectures
1	Cloud Concepts Overview	2
2	Cloud Economics and Billing	2
3	AWS Global Infrastructure Overview	2
4	AWS Cloud Security	4
5	Networking and Content Delivery	2
8	Compute	2
9	Storage	2
10	Databases	2
11	Cloud Architecture	2
12	Automatic Scaling and Monitoring	2
13	Machine Learning using AWS	6

(Tentative) Grading Criteria

1. Assignments (10%)
2. Quizzes (10%)
3. Presentation (5%)
4. Class Participation (5%)
5. Midterm Exam (30%)
6. Final Exam (40%)

Course Policies

1. Academic integrity is expected of all the students.
2. Quizzes will be announced. There is no makeup for a missed quiz or assignment.
3. A minimum of 80% attendance is mandatory.
4. A minimum of 50% marks must be attained to pass the course.