CSE 546 Cloud Computing Spring 2025

Syllabus

Lecturer: Dr. Yuli Deng

email: ydeng19@asu.edu

TA: Neha Rajendra Vadnere

TA email: nvadnere@asu.edu (for Course Project related question)

Lectures: **TBD**

Office hour: **Friday 4-5PM** on zoom **and** in person @ BYENG M1-04

Prerequisites

- Good knowledge of data structures, computer organization, and computer networks
- Proficiency in Python, Java, Javascript or .Net

Communication Protocol:

- We'll use Slack space for all course-related questions.
- DO NOT discuss anything that is not related to the course materials in the Slack space
- All questions will be answered within 24 hours; message Yuli Deng in canvas if otherwise
- DO NOT email Yuli or the TAs unless you want to discuss privately.

Violations may cause you being removed from Slack space.

Description

CSE 546 covers the following topics:

Module 1: Introduction

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  - Background and history of cloud computing
  - Cloud computing models

Module 2: Infrastructure as a Service (IaaS)

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  - IaaS system architecture
  - IaaS programming

Module 3: Virtualization

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  - Background and history of virtualization

Module 4: Virtual machines

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  - Architecture
  - Processor virtualization, memory virtualization, I/O virtualization

Module 5: Platform as a Service (PaaS)

Module 6: Virtual networks

Module 7: Virtual storage

Module **8**: **Case Studys**

The course materials will be covered by lectures and reading.

The course also includes three exciting programming projects, which involve developing interesting cloud services using important, real-world cloud platforms.

Project Protocol:

- All the group projects should be done by students in groups of **three** students
- Everyone in the same group will receive the same grade for the project
- Finding yourself reliable teammates is critical to the success of your projects; Do it **ASAP**
- You are allowed to switch teams in between two projects, but you cannot switch in the middle of a project
- Every group project will require a live demo and a code submission
- Test your code **thoroughly** before the demo; A failed demo will cost you half of the project grade
- In your code submission, include only the **source code** that you have written; Do not include any binaries
- Late submission will **not** be accepted; Submit **early** and as many times as you need

Portfolio Requirements:

To include your cloud computing projects in your MCS or 4+1 portfolio, you need to do the following:

1. Receive a passing grade for the class and a passing grade for **all** of the three projects.
2. For the two group projects, include a one-page extra report to clearly document your individual contribution to the group, and include this individual report as part of the group project submitted by the **same project deadline**; there should not be any significant overlap between your contribution and your teammates' contributions. Your individual contribution reports will be graded separately, and you need to receive a passing grade for both reports.

If you meet the above requirements, your name will be passed on to the advising office and you do not need to do anything else in order to include your cloud computing projects in your portfolio.

Grading

Projects: Project 1 (**15**%), Project 2 (**15**%), Project 3(**10**%)

Quizzes 30%

Exams 30%

Final Grade	**Percentage**
A+	>= 95%
A	>= 92% and < 95%
A-	>= 90% and < 92%
B+	>= 85% and < 90%
B	>= 80% and < 85%
B-	>= 78% and < 80%
C+	>= 75 and < 78%
C	>= 70% and < 75%
D	>= 60% and < 70%
E	< 60%

Note: Strictly followed; no rounding up. No Y grades.

Advice for Success:

This will be a demanding course. Take this class at another time if you are not ready or cannot invest the necessary time.

To prepare for the quizzes and exams, *1)* view the lectures videos, *2)* take notes, *3)* read the reading materials; and *4)* do the quizzes and projects.

To deliver successful projects, *1)* find reliable teammates, *2)* start early, *3)* work consistently, *4)* test my code thoroughly, and 5*)* be a self-driven learner.

Finally, talk to the instructor and TA, early and often.

Policies

- No late submission or make-up quizzes: Late submission of assignment will not be graded. There will be **absolutely no** exception unless it is due to **verifiable** cases of illness and emergencies.
- Academic integrity: All assignments must be done **independently**. Academic dishonesty will be treated **seriously** according to the Student Academic Misconduct Procedures.

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at https://sexualviolenceprevention.asu.edu/faqs.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, https://eoss.asu.edu/counseling, is available if you wish would discuss any concerns confidentially and privately.