Fall 2022 – CSCI 8795
Advanced Topics in Cloud Computing

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1 General Information

• Instructor Name: In Kee Kim

• Instructor Accessibility: email (inkee.kim@uga.edu) communication is preferred. Students will receive response within 24 hours.

• Office Hours: By appointment

• Course website: [http://cobweb.cs.uga.edu/~kim/classes/F22-CSCI-8795/](http://cobweb.cs.uga.edu/~kim/classes/F22-CSCI-8795/)

• Class meeting time and location:
  – Tue and Thurs: 2:20 – 3:35 p.m. @Dawson Hall 0206
  – Wed: 3:00 – 3:50 p.m. @Boyd GSRC 0302

• Required Course Material: Will be provided via course web site

• Exam Policy: No Exam for this course

2 Course Overview

Cloud Computing has become a *de facto* infrastructure in many business and research organizations to deliver various user-facing, business, and scientific applications to end users. The goal of this course is to introduce the underlying technologies that created the current cloud computing and infrastructure, then discuss the future of clouds by investigating the *cutting-edge* research that will soon be part of cloud ecosystems.

This course is designed for “graduate students” and is (most importantly) focused on “research project and seminar”. We will quickly cover fundamental concepts of cloud computing with lectures, then move onto (more) research-oriented components (seminar and project) of this course.
In addition, the students will have opportunities to present assigned research papers. The students’ presentation should clearly address and summarize motivation, problem statement, the authors’ approach, evaluation, and discussion topics (e.g., pros/cons, further improvement, etc.).

**Prerequisite:** Not required, but prior knowledge of operating systems, distributed systems, and computer networks will be a plus.

**Textbooks:** This class does not require a textbook. Course materials will be recent publications from top-tier cloud/system conferences and journals.

### 3 Course Assignments and Final Research Project

1) **Class Presentation:** The presentation should be prepared for 30–40 minutes talk and clearly explain motivation, problem statement, related work (additional literature survey is a plus), the authors’ approach, evaluation, and discussion topics (e.g., pros/cons, further improvement, etc.).

   Please note that Slide for the presentation must be emailed to the instructor by 6 p.m. before the class day (if not, the student will lose 33% of the grade). Also, students can always consult with the instructor for the presentation preparation.

   - Aug/26: Paper selection deadline

2) **Final Research Project:** An essential component of this course is a final research project. You are expected to work on a cutting-edge research problem, which is relevant to the topic (as well as the theme of the semester) of this course. You can work either individually or with other students (no more than three students). Project idea has to be discussed with the instructor. Tentative schedule for this project is as follows:

   - Aug/26: Team building deadline
   - Sep/9: Project idea deadline
   - Week05: Individual Project Meeting (I) – Proposal and Project Scope
   - Sep/23: Proposal doc (ppt) deadline
   - Week06: Proposal presentation
   - Oct/14: 1st Mid-Phase report deadline
   - Nov/04: 2nd Mid-Phase report deadline
   - Week13: Individual Project Meeting (II) – Mid-Phase Progress Discussion
   - Week16: Final project presentation
   - Dec/09: Final report due (11:59:00 p.m.)
2) **Late Submission Policy:** Late submission policy will be applied to all deadlines and submissions, including paper selection and team building. **Less than 24 hours late – 20% penalty.** **24 to 48 hours late – 40% penalty. Later than 48 hours – 0 pt.**

4  **Grading Distribution**

- Class participation: 10%
- Paper presentation: 25%
  - Paper Selection: 5%
  - Presentation: 20%
- Research project: 65%
  - Team Building: 5%
  - Project idea: 5%
  - Proposal doc (ppt) & Presentation: 15%
  - 1st Mid-Phase report: 5%
  - 2nd Mid-Phase report: 5%
  - Final presentation: 10%
  - Final report: 20%

5  **Academic Honesty**

All students must follow the Academic Honesty Policy of the University of Georgia. The detailed information of this policy can be found at [https://honesty.uga.edu/Academic-Honesty-Policy/](https://honesty.uga.edu/Academic-Honesty-Policy/). If there are any issues regarding this policy, please contact the instructor immediately.