

Fall 2020 – 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: Online (Zoom) by email appointment
- Course website: <http://cobweb.cs.uga.edu/~kim/classes/S20-CSCI8795/>
- Class meeting time and location:
 - Tue and Thurs: 2:20 – 3:35 p.m. @Boyd GSRC 0202 and Online (Zoom)
 - Wed: 3:00 – 3:50 p.m. @Boyd GSRC 0202 and Online (Zoom)
- Participation Policy: Will not be evaluated for grade
- Course Format: Synchronous, Hybrid of on/offline
- Required Course Material: Will be provided via course web site
- Exam Policy: No Exam for this course
- COVID-19 related: **Appropriate face covering is mandatory in the classroom.**

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) Reading Assignments (Paper Review): All students should read each assigned paper and submit the review before the scheduled lecture (9 a.m. of the day). Please note that the reading assignment will be started from the fifth week of the semester. The paper review should have three paragraphs:

- **Paragraph 1:** 1–2 sentences of problem statement and 1–2 summary of the paper
 1. e.g., **Problem Statement:** what problem is being addressed in the paper?
 2. e.g., **Summary of Approach/Evaluation:** “the authors address the problem by designing and implementing...”
- **Paragraph 2:** pros and cons of the paper
 1. e.g., **Pros:** what’s compelling/effective about the paper.
 2. e.g., **Cons:** what are the most significant flaws/limitations of the paper?
- **Paragraph 3:** (at least) three questions for the paper discussion

2) 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.

3) 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:

- Sep/05: Team building deadline
- Sep/19: Project idea deadline
- Sep/27: Proposal doc (ppt) deadline
- Week06: Project discussion for proposal
- Week07: Proposal presentation
- Oct/25: Mid-Phase report deadline
- Week11: Mid-Phase progress discussion
- Week16: Final project presentation
- Dec/08: Final report due

4 Grading Distribution

- Reading assignment: 20%
- Paper presentation: 20%
- Research project: 60%
 - Project idea: 5%
 - Proposal doc (ppt) & Presentation: 15%
 - Mid-Phase report: 10%
 - 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/>. If there are any issues regarding this policy, please contact the instructor immediately.

6 Coronavirus Information for Students

6.1 Face Coverings

Effective July 15, 2020, the University of Georgia—along with all University System of Georgia (USG) institutions—requires all faculty, staff, students and visitors to wear an appropriate face covering while inside campus facilities/buildings where six feet social distancing may not always be possible. Face covering use is in addition to and is not a substitute for social distancing. Anyone not using a face covering when required will be asked to wear one or must leave the area. Reasonable accommodations may be made for those who are unable to wear a face covering for documented health reasons. Students seeking an accommodation related to face coverings should contact Disability Services at <https://drc.uga.edu/>.

6.2 DawgCheck

Please perform a quick symptom check each weekday on DawgCheck—on the UGA app or website—whether you feel sick or not. It will help health providers monitor the health situation on campus: <https://dawgcheck.uga.edu/>

6.3 What do I do if I have symptoms?

Students showing symptoms should self-isolate and schedule an appointment with the University Health Center by calling 706-542-1162 (Monday-Friday, 8 a.m.-5 p.m.). Please DO NOT walk-in. For emergencies and after-hours care, see <https://www.uhs.uga.edu/info/emergencies>.

6.4 What do I do if I am notified that I have been exposed?

Students who learn they have been directly exposed to COVID-19 but are not showing symptoms should self-quarantine for 14 days consistent with Department of Public Health (DPH) and Centers for Disease Control and Prevention (CDC) guidelines. Please correspond with your instructor via email, with a cc: to Student Care & Outreach at sco@uga.edu, to coordinate continuing your coursework while self-quarantined. If you develop symptoms, you should contact the University Health Center to make an appointment to be tested. You should continue to monitor your symptoms daily on DawgCheck.

6.5 How do I get a test?

Students who are demonstrating symptoms of COVID-19 should call the University Health Center. UHC is offering testing by appointment for students; appointments may be booked by calling 706-542-1162.

UGA will also be recruiting asymptomatic students to participate in surveillance tests. Students living in residence halls, Greek housing and off-campus apartment complexes are encouraged to participate.

6.6 What do I do if I test positive?

Any student with a positive COVID-19 test is **required** to report the test in DawgCheck and should self-isolate immediately. Students should not attend classes in-person until the isolation period is completed. Once you report the positive test through DawgCheck, UGA Student Care and Outreach will follow up with you.

7 Mental Health and Wellness Resources

- If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of Student Affairs at 706-542-7774 or visit <https://sco.uga.edu>. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.
- UGA has several resources for a student seeking mental health services (<https://www.uhs.uga.edu/bewelluga/bewelluga>) or crisis support (<https://www.uhs.uga.edu/info/emergencies>).
- If you need help managing stress anxiety, relationships, etc., please visit BeWellUGA (<https://www.uhs.uga.edu/bewelluga/bewelluga>) for a list of FREE workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center. Additional resources can be accessed through the UGA App.