

SP 2021 – CSCI 4795/6795 Cloud Computing

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1 General Information

- Instructor: In Kee Kim (inkee.kim@uga.edu)
- Course website: <http://cobweb.cs.uga.edu/~kim/classes/S21-CSCI4795-6795/>
- Class meeting time and location:
 - Tue and Thurs: 9:35 – 10:50 a.m. @Miller Plant Sci 1102
 - Wed: 10:20 – 11:10 p.m. @BOYD 0222
- Office Hours/Location:
 - TBD
 - TBD

2 Course Overview

Cloud has become a *de facto* computing infrastructure in many business and research organizations to deliver various user-facing, business, and scientific applications to end users. In this course, you will learn the underlying technologies and concepts that create the current cloud computing and infrastructure, and obtain hands-on experience in designing and implementing modern cloud applications.

This is an introductory cloud computing course designed for both senior-level undergraduate students and graduate students. This class will cover the following concepts and topics (*tentative*):

- Concept and Definition of Cloud Computing
- Virtualization and Data centers
- Cloud Service Models: IaaS, PaaS, SaaS
- Public Clouds, Private Clouds, and Hybrid Clouds
- Cloud Resource Management
- Cloud Infrastructure Management Systems
- Cloud Storage, NoSQL, and Distributed Key/Value Store

- Containers and Microservices
- Container Orchestration Systems like Kubernetes and Docker Swarm
- Cloud Function and Serverless Computing
- Cloud Security
- Cloud IoT, Edge/Fog Computing, Mobile Clouds
- Big Data Processing Frameworks – Hadoop, Spark, Storm.

Prerequisite: CSCI 2720 – “Data Structures.” In addition, prior knowledge of operating systems, distributed systems, computer architecture, and computer networks will be a plus.

Textbooks: This class does not require a textbook, but there are two optional textbooks/references:

1. *Cloud Computing: Theory and Practice*. Dan Marinescu, 2nd Edition, Elsevier, 2017
2. *Cloud Computing for Machine Learning and Cognitive Applications*, Kai Hwang, MIT Press, 2017

The lecture will be based on the slides provided by the instructor. Also, the students will be required to read research papers and technical documents about cloud computing.

3 Grading

3.1 Distribution

	Undergrad	Graduate
Programming Assignment (4+ assignments)*	50%	40%
Midterm Exam [†]	20%	20%
Final Exam [†]	25%	25%
In-class Participation/Quiz	5%	5%
Paper Presentation	–	10%
Total	100%	100%

- ***Late Policy for Programming Assignments:** Less than 24 hours late – 20% penalty. 24 to 48 hours late – 40% penalty. Later than 48 hours – 0 pt.
- ***No email submission allowed for Programming Assignments.**
- **†Both exams are closed-books/notes.**
- **Regrade Request:** Within one week of distribution of your grade. After one week, regrade requests will not be considered.

3.2 Grade Cutoffs

This class uses the standard grade cutoffs.

- **A:** [93, 100]
- **A-:** [90, 92]
- **B+:** [87, 89]
- **B:** [83, 86]
- **B-:** [80, 82]
- **C+:** [77, 79]
- **C:** [73, 76]
- **C-:** [70, 72]
- **D+:** [67, 69]
- **D:** [63, 66]
- **D-:** [60, 62]
- **F:** [0, 59]

4 Academic Honesty

All students must follow the Academic Honesty Policy of the University of Georgia. Dishonest behavior will not be tolerated and will result into failing the course. 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.

5 Coronavirus Information for Students

5.1 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/>.

5.2 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/>

5.3 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>.

5.4 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.

5.5 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.

5.6 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.

6 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.