

Course Description and Objectives

This course covers virtualization and cloud infrastructure and the assurance necessary to provide secure cloud architectures. Specific topics include network security, cryptographic key management, data security and threat hunting in relation to the cloud computing environment.

Course Requirements

Prerequisites: CSEC 2324 - Network Security,
CSEC 3312 - Applied Cryptography

Modality

This course is offered in person on campus. All course assignments, quizzes, exams will be completed and submitted through Blackboard. There may be times we meet virtually to give you an opportunity to concentrate on labs while maintaining access to your professor.

Student Learning Outcomes

Upon successful completion of this course, students will be familiar with

- Virtualization and cloud architectures
- Commonly used cloud services
- Cryptographic key mechanisms used in cloud computing
- The organizational policy, planning and administration requirements for cloud services

ABET Student Outcomes

- Configuring a network trust boundary in the cloud
- Understand common risks and mitigations associated with cloud computing
- Understand how to administer cloud infrastructure in the context of an organization
- Understand cloud key management in relation to data security

PROFESSOR INFO

Faculty Name: William (Bill) Cox
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Phone: (501) 502-0334
Virtual Office: Teams/Meets/Slack
Meetings available upon request

GRADUATE ASSISTANT

GA Name: Janaki Koppolu
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TEXTBOOK RECOMMENDATION



Title: Beginner: Google Cloud Cybersecurity Certificate
Authors: Google Cloud Skills Boost

Course Activities

Course Topics

- Virtualization and Virtual Hypervisor Architecture
- Cloud Services - Various service models and cloud offerings
- Cloud Architecture - Geographical regions, private cloud, hybrid architectures, edge computing, etc.
- Cloud Policy and Planning - How organizations use cloud computing, cost planning, policy development, contract review process and manage compliance
- Identity as a Service - Identity and access management solutions for cloud computing
- Role-Based Access Control - Role based management of privileges in the cloud
- Cloud Administration - Organizational function to security operate cloud services
- Cloud Networking Security - Understanding cloud network architecture and configuring cloud firewalls, VPNs and threat detection
- Cryptographic Key Management - Key chaining, cloud versus customer managed keys, hardware security modules
- Threat Hunting in the Cloud - Logging, review and threat identification in cloud computing
- Privacy in the Cloud - Privacy regulations impacting cloud computing and mechanisms to ensure privacy in the cloud

Orientation and Course Schedule

All course assignments and exams will be through Blackboard. Reading assignments, slides, and deadlines can be found on Blackboard in a link to the Course Schedule. **You should link to the course schedule and check it regularly.**

Technology

You will use Google Cloud services and Google Cloud Skills Boost for all of your labs and course modules.

IT related questions, including problems with your computer or technology, can be directed to IT Services. The service desk can be reached by calling (501) 916-3011 or you can submit a request to help@ualr.edu. IT assistance is available Monday – Friday from 7:00 am – 5:00 pm.

The Blackboard Student Support can be accessed in three ways:

- Helpdesk can answer questions about Blackboard and online classes. They can be reached at (501) 916-3602 Monday – Friday from 8:00 am – 5:00 pm.
- New for the Fall 2021 semester, Blackboard now offers a smart help BOT feature that is available 24x7. [[Chris, please insert info here when we get it from the STaR Office.]]
- You can also submit support requests to <https://ualr.edu/blackboard/contact/>.

Assessments

The assessment for this course is primarily lab-based with milestone assessments for the project listed in the Course Schedule. All assignments must be submitted through Blackboard.

Grading Policy

Grades are calculated as shown in the Grading Scale.

Late and Make-up Work

Each Assignment will have a due date and you are expected to meet that date. Assignments must be submitted by 11:59 p.m. (Central time) on the due date. Any late work will be assessed with a 10% penalty for each day past the due date.

Extra Credit

Extra Credit is rarely provided, but opportunities may be made available to all students in certain cases. If you have concerns about your grade, contact me as soon as possible.

Feedback

Grades will be posted on Blackboard within a week of the completion deadline.

University Policies

COVID-19 Policies

Covid Policy can be found [here](#)

The University of Arkansas at Little Rock is continuously working to provide you with accurate and reliable information regarding the coronavirus pandemic.

Attendance and Participation

The complete University class attendance and withdrawal policy can be found [here](#).

- Students are expected to attend class regularly and complete all assignments and examinations. Students who miss class are responsible for finding out about the material covered, homework assignments, and any announcements or examinations.

GRADING SCALE

Activities	%
Labs	50%
Quizzes	40%
Final Project	10%
Total	100%

Letter	Percentage
A	90–100
B	80–89
C	70–79
D	60–69
F	59 and below

- A student can drop a course up to the 5th day of classes through the schedule change process. Dropping a course in this period will not result in a record of the drop on the student's transcript.
- From the 6th day through the 41st day of classes, except as noted below, a student wishing to drop a class submits a request to the Office of Records and Registration.
- On or before the 10th day of classes, students who have not attended or who have not met their payment obligations will be administratively withdrawn.
- Students may be withdrawn from a class by the instructor at any time during the semester due to non-attendance (or non-participation in an online course) or extenuating circumstances, such as medical or family emergencies or excessive absences.
- Students voluntarily withdrawing from UA Little Rock must complete the University Withdrawal Form and have an exit interview with a staff member in the office responsible for financial aid if the student is receiving financial aid.

Plagiarism & Academic Integrity

The complete University Academic Integrity and Grievance Policy (501.13) can be found [here](#).

Students may not gain undue advantage over their classmates by deceptive or dishonest means. Throughout their education students should be impressed with the facts that cheating, duplicity, unauthorized reproduction of classroom materials, and plagiarism are morally degrading and that such practices seriously interfere with learning and intellectual development. Any student in this class who submits work they did not produce for the given assignment will be assigned a grade of zero points (F) for the assignment in question and may possibly fail the class. Categories of offenses that are subject to grade penalty and disciplinary action include but are not limited to cheating on an examination or quiz, plagiarism, collusion, and duplicity. For more information, please see the Code of Student Rights and Responsibilities [here](#).

Students with Disabilities

Your success in this class is important to me, and it is the policy and practice of the University of Arkansas at Little Rock to create inclusive learning environments consistent with federal and state law. If you have a documented disability (or need to have a disability documented), and need an accommodation, please contact me privately as soon as possible, so that we can discuss with the Disability Resource Center (DRC) how to meet your specific needs and the requirements of the course. The DRC offers resources and coordinates reasonable accommodations for students with disabilities. Reasonable accommodations are established through an interactive process among you, your instructor(s) and the DRC. Thus, if you have a disability, please contact me and/or the DRC, at 501-569-3143 (V/TTY) or 501-683-7629 (VP). For more information, please visit the DRC website at <https://ualr.edu/disability/>

Web Accessibility

It is the policy and practice of UA Little Rock to make all web information accessible to students with disabilities. If you, as a student with a disability, have difficulty accessing any part of the electronic course materials for this class, please notify me immediately.

Inclement Weather Policy

The complete inclement weather policy can be found [here](#).

- During inclement weather, UA Little Rock will decide whether to close based on all available information.
- The chancellor will decide whether conditions warrant canceling classes and activities and closing the campus or whether classes and activities will be canceled but with specified campus offices open. Online or web-enhanced classes will continue as scheduled at the discretion of the faculty member.
- The UA Little Rock website, UA Little Rock email, the university's main telephone number (501-916-3000), and the Rave campus alert notification are the official means of communicating information concerning weather-related closings.
- When necessary, the university will announce a separate decision about canceling night classes (those classes starting at 4:40 pm or later) by 2 pm, if possible.

Student Resources

Blackboard Support

The Blackboard Support website was designed to assist students with information about the Blackboard system including tutorials, helpful resources, downloads, and answers to their frequently asked questions. In addition to the website, students can also find help within the Blackboard system using the Help tab or through their social media outlets on Facebook and Twitter.

For assistance with Blackboard, please visit ualr.edu/blackboard.

IT Services

For technical support with other UA Little Rock systems, including logging into Blackboard, BOSS, or your UA Little Rock email, please contact the IT Help Desk at ualr.edu/itservices or by calling 501.916.3011.

Their business hours are Monday through Thursday from 7:00 am to 6:00 pm, and on Fridays from 7:00 am to 5:00 pm.

Disabilities Resource Center

The Disability Resource Center recognizes disability as an aspect of diversity that is integral to society and to the campus community. To this end, the DRC collaborates with students, faculty, staff, and community members to create usable, equitable, inclusive, and sustainable learning environments. The DRC also promotes and facilitates awareness and access through training, partnerships, innovative programs and accommodations.

Visit UALR's [Disability Resource Center website](#) for more information about their mission and services.

Textbooks and Campus Bookstore

UALR's Bookstore can help you order the books for this course. Tell them what course you have, and they will find the books you need. If you need to search for a particular book by title, author, or publisher, please [visit UALR's bookstore website](#).

Textbooks must be ordered and received prior to the beginning of the class.

Ottenheimer Library

Ottenheimer Library collects, organizes, and provides access to information resources and library services that enrich and support the University's research and teaching mission, foster intellectual development, and promote academic excellence.

Visit the [Ottenheimer Library website](#) for information about the library and its collections, and view available services.

Online Writing Lab

You can submit a paper electronically to the OWL (Online Writing Lab). Make sure that the document is saved as a .doc and not any other formats such as .docx or .rtf. Then e-mail the document as an attachment to owl.ualr@gmail.com.

Visit the [Online Writing Lab](#) for more information about the services they provide, their online submission guidelines, and virtual writing conferences.