Ira A. Fulton Schools of Engineering
Arizona State University

Course Syllabus - Summer C 2026

CSE 548: Advanced Computer Network Security

Course Description

Focusing on the areas of applied cryptography, system security, and the principles and practices of network security, this course explores the necessary tools, techniques, and concepts of network security for modern computer networks. The course's coverage of advanced network security includes both cutting-edge technologies and research topics, primarily at the MAC layer and above. The course not only provides students with exposure to burgeoning areas of network security but also hands-on experience using the tools essential for computer networks and cybersecurity today and in the future.

Specific topics covered include:

- Public key and symmetric key-based cryptography
- Access control models
- Network security policies
- Authentication protocols
- Secure protocol standards
- Public Key Infrastructure and its development trends
- Virtual Private Network and its restrictions
- Attack graphs and attack trees
- SDN/NFV-based security solutions
- Cloud network security
- ML and AI for computer network security
- Moving target defense in computer networks

Technologies covered include:

- Python
- Html
- Virtual Box 5.0
- Apache Web Service

Learning Outcomes

Learners completing this course will be able to:

- Explain basic security terminologies, models, architectures, and techniques.
- Apply proven methodologies to design secure networks that address enduring and emerging issues.
- Apply network security standards and cryptography algorithms.
- Document the process of designing and implementing secure networking systems.
- Build a secure networking system to counter given network attacks.
- Adhere to standards of computer security ethics.
- Manage a network security establishment effort.
- Assess networking systems to identify security vulnerabilities.
- Represent security system set up and process results in written form.
- Discuss cutting-edge network security research and development.

Estimated Workload/ Time Commitment Per Week

Average of 18 - 20 hours per week

Required Prior Knowledge and Skills

This course will be very challenging, and learners are expected to learn the necessary technologies on their own time.

Proficient Mathematical Skills and Theoretical Understanding

- Algorithms
- Data Structures
- Computer Organization and Architecture
- Operating Systems
- Computer Networking

Strong Application Skills

- Ability to effectively read C code
- Ability to effectively read Python code
- Confidence executing the following programming languages:
    - Python
    - Java

Proficient Experience

- Familiarity with these tools to understand network traffic, binaries, and web applications for your coursework:
    - Tcpdump
    - ifconfig
    - Route
    - Ip
    - ping
    - Traceroute
- Basic computer network concepts:
    - TCP/IP
    - packet switching
    - network services architecture
    - network protocol stack (MAC layer and above)
    - basic network security concepts such as encryption/decryption, authentication, access control, identity/key management
- Basic network security concepts:
    - encryption/decryption
    - authentication
    - access control
    - identity/key management
- Operating systems:
    - Windows 10

- Linux 64 bit
- Mac OS X

Course Access

Your ASU courses can be accessed by both my.asu.edu and asu.instructure.com. Bookmark both in the event that one site is down.

Technology Requirements

Proctoring

- LockDown Browser Computer Requirements for Installation for graded quizzes
- Honorlock Minimum System Requirements for exams

Hardware

- Standard personal computer with major operating system
- Reliable, strong Internet connection
- Webcam
- Microphone
- Intel or AMD-based computer with 8GB or more memory.
    - Note: 6GB is technically sufficient, but performance will be sluggish.

Software/Other

- Apporto
- VirtualBox 5.0 or Newer or Apporto
- Windows 10, Mac OS X, or Linux 64-bit as base operation system.
    - Note: Knowing how to use the Linux OS is a plus.
- A virtual desktop platform Apporto (optional) can be used in place of a local setup.

Textbook and Readings

At the graduate level, inquiry, research, and critical reading are part of the learning experience; however, this course does not have a required textbook. Any required readings are provided within or are accessible through the course or the ASU Library.

For interested learners, this textbook is recommended:

Software-Defined Networking and Security: From Theory to Practice. Dijiang Huang, Ankur Chowdhary, and Sandeep Pisharody (CRC Press, 2018).

Course Schedule and Important Dates

Course teams will not be working on ASU's days off* and those are listed in the Course Schedule. Please review the ASU Days Off for more details.

Module: Title	Begins at 12:01 AM Arizona (AZ) Time	Ends at 11:59 PM Arizona (AZ) Time
Orientation and Onboarding Review You must complete required tasks in the Orientation and Onboarding Review for Module 0: Welcome and Start Here to be unlocked.	Monday, May 11, 2026	Wednesday, May 15, 2026
Module 0: Welcome and Start Here You must complete required tasks in Module 0: Welcome and Start Here for the rest of the course to be unlocked.	Thursday, May 16, 2026	Saturday, May 18, 2026
Module 1: Computer Network Foundations	Monday, May 18, 2026	Sunday, May 24, 2026

Module 2: Security Foundations ASU day off: May 25, 2026	Monday, May 25, 2026	Sunday, May 31, 2026
Module 3: Virtual Networks	Monday, June 1, 2026	Sunday, June 7, 2026
Exam 1	Sunday, June 7, 2026	Sunday, June 14, 2026
Module 4: Software-Defined Networks and Network Functional Virtualization	Monday, June 8, 2026	Sunday, June 14, 2026
Module 5: Security Measurement	Monday, June 15, 2026	Sunday, June 21, 2026
Module 6: Anomaly Detection	Monday, June 22, 2026	Sunday, June 28, 2026
Course Evaluation You may also refer to ASU's Office of Evaluation and Educational Effectiveness (UOEEE) for dates.	Review the dates in your course	Review the dates in your course
Module 7: Moving Target Defense **ASU Day Off: Saturday, July 4, 2026*	Monday, June 29, 2026	Sunday, July 5, 2026
Module 8: Trends, Future Directions	Sunday, July 6, 2026	Friday, July 10, 2026
Deadline to Submit all Graded Coursework		Thursday, July 9, 2026

Exam 2	July 3, 2026	July 10, 2026
Request for Faculty Review: MCS Portfolio Project Report Inclusion Request Optional, degree-seeking learner degree requirement If you submit by the first deadline and it is not accepted, you are encouraged to review the feedback and re-submit it a second time by the last submission deadline. Anything submitted past the last submission deadline will **not** be reviewed for approval in your portfolio to meet your degree requirements. You will have to repeat this process for another course and a project from that course.		First Date: July 16, 2026 Final Date: July 30, 2026
Faculty Feedback for the Review: MCS Portfolio Project Report Inclusion Request Optional, degree-seeking learner degree requirement		Wednesday, August 19, 2026
Course Closes Past this date, Ed Discussion will no longer be monitored. Please download copies of what you would like from the course (e.g., Request for Faculty Review: MCS Portfolio Project Report Inclusion Request).		Tuesday, September 8, 2026

Grades are due Sunday, July 12, 2026. Please see the ASU Academic Calendar for additional information.

Late or Missed Coursework

When possible, kindly notify the instructor before a coursework deadline by creating a private thread in Ed.

If an urgent situation or emergency arises and you are unable to submit the assignment on time, please send the instructor a private thread on Ed as soon as you are able to.

Follow the appropriate University policies to request an accommodation for religious practices or to accommodate a missed assignment due to University-sanctioned activities.

Coursework Due Dates and Late Penalties

Unless otherwise noted, all coursework is due on **Sundays at 11:59 PM Arizona (AZ) time**. Due dates in your course are set up in Arizona Standard time. Use a Time Converter to ensure you account for the difference in time zones and remember to update your course settings to reflect your time zone (see your onboarding course for directions). Arizona does **not** observe daylight savings time.

Review specific due dates directly in your course. For learners with accommodations through Student Accessibility and Inclusive Learning Services (SAILS) and/or the Pat Tillman Veterans Center (PTVC), please work with your SAILS consultant and/or PTVC Advocacy Team, Connect, and your instructor.

This course has a designated deadline to submit all graded coursework. This deadline means graded coursework submitted after the date, will not be evaluated and result in a grade of zero (0) points. Please review the Course Schedule and Important Dates section.

Graded Quizzes

No late penalty is applied after the scheduled due date and time, but in order to complete all work by the final submission date, it is highly recommended to follow the course schedule.

- Module 1 Graded Quiz
- Module 2 Graded Quiz

- Module 3 Graded Quiz
- Module 4 Graded Quiz
- Module 5 Graded Quiz
- Module 6 Graded Quiz
- Module 7 Graded Quiz

Projects

No late penalty is applied after the scheduled due date and time, but in order to complete all work by the final submission date, it is highly recommended to follow the course schedule.

- Packet Filter Firewall (iptables) Project
- SDN-Based Stateless Firewall Project
- SDN-Based DoS Attacks and Mitigation Project
- Machine Learning-Based Anomaly Detection Solutions Project

Exams

An automatic late penalty of 100% is applied after the scheduled due date and time.

- Exam 1
- Exam 2

Course Content

Each course in the MCS program is uniquely designed by expert faculty, so learners can best master the learning outcomes. As a result, course features and experiences are not the same across all MCS courses. Learners are expected to plan accordingly to accommodate for these differences.

Content and Assessment Details

If you have specific questions related to instructional and assessment items in this course that you would like to be considered to be addressed in the Zoom meeting hosted by the instructor, please clearly indicate your request in your Ed Discussion thread.

For details regarding how points are earned in different types of assessments, please refer to your onboarding courses.

PlayPosit Lecture Playlists

The course content is presented through a collection of Playposit Playlists embedded in each module. Playposit is a video platform that prompts interaction and note-taking while viewing course content. The playlists launch automatically and you can playback the course content by selecting the video titles in the playlist. The videos can be rewatched, but playlist videos cannot be downloaded. The playlist pages will include the downloadable video transcripts and any applicable supplementary material. Other course materials that accompany the lectures will be found in the media guides.

A media guide is included at the beginning of each module in the Overview section. These guides are designed to give you a snapshot description of each module's media components and to provide PDF lecture slides or note-taking materials where available, so you can plan your learning and quickly go back and review material as you prepare for your coursework.

Overview videos, assignment videos, and project-related videos do not have PDF lecture slides because they are not lectures and have associated documents specific to them. The interview videos build context for the course and do **not** have PDF slides.

Playposit Interactions: Knowledge Checks

Playposit provides opportunities for interaction and reflection as you learn the course content. During lecture videos, there are interactions referred to as in-video questions, and after videos, there are interactions called knowledge checks. Interactions are designed to support your learning, highlight specific content, encourage active viewing and/or note-taking and provide practice opportunities. They are untimed, ungraded learning opportunities to test your knowledge of the concepts presented during the lecture videos. You may retake these as often as you would like at any point in the course.

You can toggle the clipboard icon on the left of the screen and select a review to see all the questions. You are accountable for this information as it may be assessed in different ways in other

graded coursework.

There are no late penalties. Interactions are not counted toward your final grade in the class.

Discussions

Ed Discussion

Ed Discussion (Ed) is being used in place of Canvas Discussion Forums. The purpose of Ed Discussion is to provide a place for learners to ask questions and receive answers from course staff and peers about course content and coursework. The course team is engaged in discussions, but it is also a space to clarify, support, and enrich learner-to-learner communication and learning. There are designated categories for course items. You must select a category and subcategory to start a thread.

Discussions in Ed are designed to provide:

- Clarification
- Feedback
- Enrichment and deeper learning
- Connections between concepts or key ideas
- Reflection opportunities of real-world experiences
- Respectful debate and perspective building
- Resource sharing
- Networking

There are no late penalties. Ed is not counted toward your final grade in the course.

Designated Project Discussion in Ed Discussion

Use Ed to discuss items relating to the course projects. Questions/Threads should be categorized by their designated title in Ed. Please check for questions already asked and answered, or marked as resolved.

There are no late penalties. Responses in Ed are not counted toward your final grade in the course.

Practice Quizzes

There is a practice quiz to help prepare you for each graded quiz. You may retake these as often as you like at any point in the course. You are encouraged to read the partial feedback, review your answer choices, and compare them to the correct answers. With the feedback as your guide, you may use these as opportunities to study for other assessments and tasks in the course.

There are no late penalties. Practice quizzes are **not** counted toward your final grade in the class.

Graded Quizzes

Modules 1-7 each include one (1) graded quiz for a total of seven (7) graded quizzes in the course. Each graded quiz includes multiple-choice questions with either a single correct answer or multiple correct answers. You will be allowed one (1) attempt for each of these quizzes. Sixty (60) minutes is permitted to complete each graded quiz. Once you open a graded quiz, the timer will start and you are to complete the graded quiz in a single session. Graded quizzes in this course include no feedback and do not include incorrect and correct answers. Read the Graded Quiz and Exam Policy for your course for more information.

There are no late penalties associated with graded quizzes. All graded quizzes count toward your final grade in the class.

Individual Projects

This course includes four (4) individual projects. All project overview documents and materials are provided in the Welcome and Start Here section of your course, so you can preview what is expected and design your own learning schedules to complete these on time. Review the "Request for Faculty Review: MCS Portfolio Project Report Inclusion Request" section of this syllabus for what can be used from this course to potentially meet the degree portfolio requirement, which is optional and for degree-seeking learners only.

There are no late penalties associated with the projects. These projects count toward your final grade in the class.

Ungraded Background Labs

Each project will list the recommended background. These are not graded and will not count towards your final grade. The project page within the Welcome and Start Here section of the course provides an overview of the background labs and course projects.

Apporto

Apporto is an optional tool that can be used for four (4) projects. You may complete work in Apporto and then you must submit your work in the course. Carefully review submission directions outlined in the project overview documents in order to correctly earn credit.

Request for Faculty Review: MCS Portfolio Project Report Inclusion Request

This is an optional task for degree-seeking students wanting to use this course's project(s) as part of their portfolio degree requirement/specialization requirements. Review your onboarding course and the Welcome and Start Here section of your course for more details. The submission space is towards the end of the course.

Your Request for Faculty Review: MCS Portfolio Project Report Inclusion Request will be evaluated only if the criteria is met (see your MCS Handbook for more details):

- Your course is designated as a portfolio eligible course
- You address the designated project(s), which equal 30% or more of your overall course grade
- Your final course letter grade of a B* or higher

*Degree-seeking students with course letter grades that are lower than a B will **not** have their submissions reviewed.

Although there are no late penalties, these requests must be submitted by the designated deadlines. The Request for Faculty Review: MCS Portfolio Project Report Inclusion Request does not count toward your final grade in the class.

Address these projects in your Request for Faculty Review: MCS Portfolio Project Report Inclusion Request:

- Packet Filter Firewall (iptables) Project
- SDN-Based Stateless Firewall Project
- SDN-Based DoS Attacks and Mitigation Project
- Machine Learning-Based Anomaly Detection Solutions Project

Practice Exams

In order to help you prepare for your proctored exams, you will have practice exams. Since they are intended to be practice opportunities and to help you learn, you have unlimited attempts and they are untimed, ungraded, and include feedback.

You may engage with your peers in Ed Discussion to address questions, share resources and strategies, and provide feedback to help one another learn. You are encouraged to read the feedback, review your answer choices, and compare them to the correct answers. You are encouraged to submit questions in Ed Discussion for the course team to address during Zoom Events and/or Zoom Support Sessions. Use the feedback to guide your learning and to study for the proctored exam.

There are no late penalties. Practice exams are **not** counted toward your final grade in the class.

Proctored Exams

You have two (2) proctored exams. These consist of Exam 1 and Exam 2. The proctored exams do not include feedback. Read the Graded Quiz and Exam Policy for your course for more information.

No late exams will be permitted or accepted and will result in a score of zero (0) points. This does **not** include established accommodations for learners receiving accommodations through Student Accessibility and Inclusive Learning Services (SAILS) and and/or the Pat Tillman Veterans Center (PTVC).

The proctored exams count toward your final grade in the class.

Exam Details	Exam 1	Exam 2

Content Covered	Modules 1, 2, 3, and 4	Modules 5, 6, 7, and 8
Question Type **Grading Note:** For multiple choice questions with multiple correct answers, you earn credit for each correct answer option selected; however, credit is automatically deducted for each incorrect answer option selected. You cannot earn less than zero (0) for any question. If no answer option is selected, you will earn zero (0) points for no attempt, so it is best to provide an answer to every question.	Multiple-choice questions with a single correct answer Multiple-choice questions with multiple correct answers	Multiple-choice questions with a single correct answer Multiple-choice questions with multiple correct answers
Number of Questions	31 total questions (30 content questions pulled randomly from a question bank + 1 academic integrity question)	20 total questions (19 content questions + 1 academic integrity question)
Availability Start	Sunday, June 7, 2026 , at 12:01 AM AZ Time	Friday, July 3, 2026, at 12:01 AM AZ Time
Availability End	Sunday, June 14, 2026 at 11:59 PM AZ Time	Friday, July 10, 2026 at 11:59 PM AZ Time
Scheduling Reminder In order to have enough time to complete the exam, you should start your exam no later than the listed date and time to ensure you have enough time to complete it before	Sunday, June 14, 2026 at 11:59 PM AZ Time	Friday, July 10, 2026 at 11:59 PM AZ Time

the due date.		
Duration	120 minutes + plan for at least 15 minutes for proctoring set up	120 minutes + plan for at least 15 minutes for proctoring set up

Proctoring

Learners needing allowance accommodations need to work through the Student Accessibility and Inclusive Learning Services (SAILS) and/or the Pat Tillman Veterans Center (PTVC).

LockDown Browser

LockDown Browser will proctor your graded quizzes this session. It is an online proctoring service that allows you to take your exam from the comfort of your home. You do **not** need to create an account or schedule an appointment in advance. It is available twenty-four hours a day/seven days a week/and three hundred sixty-five days a year (24 hours a day/7 days a week/365 days a year), and all that is required is a computer, a working webcam/microphone, your ID, and a stable internet connection.

Review your onboarding course and the Welcome and Start Here section in your course for more information about LockDown Browser and how to download the required software.

Graded Quiz Allowances

Any items **not** included in this list are **not** allowed during the assessment sessions or in your assessment space.

Reminders

- Instructors reserve the right to adjust scoring based on academic integrity violations (e.g., not following the allowances).
- You are to independently take the assessment in a single session without leaving the testing space (e.g., no bathroom breaks) to ensure proctoring of the entire session.
- You will be allowed one (1) attempt to take and complete your assessment. Once you open your assessment, your testing session begins and you will need to complete it within the allotted time. Your assessment will automatically be submitted if it is not completed before the deadline.
- Select a location where you can comfortably take your assessment without interruption and have a video recording taken of yourself and your workspace environment. This area should also be free of distractions and interruptions.
- Turn off all other devices (e.g., tablets, phones, second computers) and place them outside of your reach.
- Clear your environment of all external materials not permitted. Review the allowances to ensure you know what is permitted.
- Before starting the assessment, know how much time is available for it by checking your course and syllabus, and that you have allotted sufficient time to complete it.
- Remain at your device for the duration of the assessment.
- If the device or networking environment is different than what was used previously with the Webcam Check and System & Network Check in LockDown Browser, run the checks again prior to starting the test.
- You are to stay within a clear view of the webcam throughout the duration of the proctored session.
- To produce a good webcam video:
    - Avoid wearing headwear (e.g., hats).

  - Ensure your device is on a firm surface (e.g., desk or table). Do not have the device on your lap, a bed or other surface where the device or you are likely to move.
  - If using a built-in webcam, avoid tilting the screen after the webcam setup is complete.
  - Take the assessment in a well-lit room and avoid backlighting, such as sitting with your back to an open window.
- Remember that LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the assessment until all questions are completed and submitted unless otherwise directed in the allowances.
- Before the assessment concludes and the proctoring session ends, all scratch paper must be destroyed and all whiteboard markings must be erased.

Specific Allowances

- Web links: no
- Open book: yes
- Pre-written paper notes: yes
  - Handwritten notes: 1 page, 2-sided A4 sheet
  - Printed Notes: 1 page, 2-sided A4 sheet
- Scratch paper: yes

  Unlimited amount of blank scratch paper of any size, writing utensils (e.g., pens, pencils, markers, and/or highlighters) and erasers; please have extra ones in your testing area should you run out of ink, the pencil breaks, etc.

  Before the quiz concludes and the proctoring session ends, all scratch paper must be destroyed and all whiteboard markings must be erased. The last question in the quiz will be a confirmation of learners executing these ASU academic integrity actions.
- On-Screen Calculator: yes
  - Standard Calculator

- Handheld calculator: yes
    - Not a separate device's calculator (e.g., mobile/cell phone) or anything with Internet access.
    - Four Function Calculator
    - Scientific Calculator
    - Graphing Calculator: TI-83, TI-84, TI-84 Plus CE, Catiga CS -121, Casio Prizm FX-CG50, NumWorks Graphic Calculator, TI-Nspire CX II CAS, HP Prime Graphing Calculator

Honorlock

Honorlock will proctor your exams this session. Honorlock is an online proctoring service. You do **not** need to create an account or schedule an appointment in advance. Honorlock is available twenty-four hours a day and seven days a week (24 hours/7 days).

Honorlock will be enabled for at least one practice assessment in your course to prepare you for the proctored exams in this course.

Review your onboarding course and the Welcome and Start Here section in your course for more information about Honorlock and how to download the required Chrome Extension.

Exam 1 and Exam 2 Allowances

Any items **not** included in this list are **not** allowed during the exam or in your exam space.

Reminders

- You are to independently take your exam(s) in a single session. Once you open your exam, your testing session begins and you will need to complete it within the allotted time. Your exam will automatically be submitted if it is not completed before the deadline. You will be allowed one (1) attempt to take and complete your exams.
- [If you anticipate needing bathroom breaks during your exam, prior to opening the exam, please post a private thread to your instructor in Ed. If you take bathroom breaks during the

exam, and you have not already notified your instructor, please post a private thread, so your instructor is aware.

- You are to stay within a clear view of the webcam throughout the duration of the proctored exam session, unless needing a bathroom break.
- Before the exam concludes and the proctoring session ends, all scratch paper must be destroyed, and all whiteboard markings must be erased.
- The last question in the exam will be a confirmation of you upholding ASU academic integrity.

Exam 1 Specific Allowance

- Site URLs: no
- Open book: no
- Pre-written paper notes: yes
    - Handwritten notes: Six (6) sheets (both sides) of 8.5x11/A4 paper of handwritten notes or
    - Printed Notes: Four (4) sheets (both sides) of 8.5x11/A4 paper of typed/printed notes (printouts of lecture slides are not allowed)
- Scratch paper: yes
    - Unlimited amount of blank scratch paper of any size, writing utensils (e.g., pens, pencils, markers, and/or highlighters), and erasers; please have extra ones in your testing area should you run out of ink, the pencil breaks, etc.
    - Before the exam concludes and the proctoring session ends, all scratch paper must be destroyed and all whiteboard markings must be erased. The last question in the exam will be a confirmation of learners executing these ASU academic integrity actions.
- Handheld calculator: no
- On-Screen Calculator: no
- Scientific Calculator: no
- Restroom breaks: yes
- Copy and Paste: no
- Hats: no

- Headphones: no
- Take Exam in a Public Area: no
- Mobile Phone Use: no
- Background Noise (Occasional sounds expected in the testing area): no

Exam 2 Specific Allowances

- Site URLs: no
- Open book: no
- Pre-written paper notes: yes
    - Handwritten notes:Six (6) sheets (degre sides) of 8.5x11/A4 paper of handwritten notes or
    - Printed Notes: Four (4) sheets (both sides) of 8.5x11/A4 paper of typed/printed notes (printouts of lecture slides are not allowed)
- Scratch paper: yes
    - Unlimited amount of blank scratch paper of any size, writing utensils (e.g., pens, pencils, markers, and/or highlighters) and erasers; please have extra ones in your testing area should you run out of ink, the pencil breaks, etc.
    - Before the exam concludes and the proctoring session ends, all scratch paper must be destroyed and all whiteboard markings must be erased. The last question in the exam will be a confirmation of learners executing these ASU academic integrity actions.
- Handheld calculator: no
- On-Screen Calculator: Yes for one question (Q6, Question set 3 - 3.6)
    - Device's calculator
    - Windows/OS
    - Online calculator

- Restroom breaks: yes
- Copy and Paste: no
- Hats: no
- Headphones: no
- Take Exam in a Public Area: no
- Mobile Phone Use: no
- Background Noise (Occasional sounds expected in the testing area): no

Course Grade Breakdown

Course Work	Quantity	Team or Individual	Points
Graded module quizzes	7	**Individual**	300
Projects Total*	1	**Individual**	400
Packet Filter Firewall (iptables) Project	1	**Individual**	100 / project
SDN-Based Stateless Firewall Project	1	**Individual**	
SDN-Based DoS Attacks and Mitigation Project	1	**Individual**	
Machine Learning-Based Anomaly Detection Solution Project	1	**Individual**	
Exam 1	1	**Individual**	150

Exam 2	1	**Individual**	150
Total			1000

*The project(s) count for 30% or more of the overall course grade, so this is a portfolio eligible course. See the MCS Graduate Handbook for more information about the portfolio requirement if you are a degree student.

Grade Scale

You must earn a cumulative grade of 57% to earn a “C” in this course. You must earn at least a “C” to receive graduate credit. This course has no grade curving. All graded coursework will be included to calculate grades (i.e., no graded items will be dropped). Grades will not be rounded. Grades in this course will include pluses or minuses.

The instructor reserves the right to adjust individual grades based on, but not limited to: violations of academic integrity.

Range of Points	Percentage	Letter Grade
970 - 1000	97 - 100	**A+**
930 - 969.99	94 - 96.99	**A**
900 - 929.99	90 - 93.99	**A-**

870 - 899.99	87 - 89.99	**B+**
830 - 869.99	84 - 86.99	**B**
800 - 829.99	80 - 83.99	**B-**
770 - 799.99	77 - 79.99	**C+**
700 - 769.99	70 - 76.99	**C**
600 - 699.99	60 - 69.99	**D**
0 - 599.99	0 - 59.99	**E**

Zoom Meetings

This course has three (3) types of Zoom meetings:

- Instructor Zoom Events: If you have specific questions or topics of interest to be discussed, please indicate your request in an Ed Discussion thread. Although it may not be possible to address all requests during the Zoom event, the instructor is interested in tailoring this time to your questions and interests. The instructor will be following a set agenda, so please be mindful of that when engaging in the Zoom event.
- Instructional Assistant (IA) Zoom Support Sessions: These sessions offer a chance for learners to get their questions answered from the IAs. Although the course team is responsive to trends in Ed Discussion, these events focus on addressing learners' specific questions related to content: clarifications, reteaching, assessment preparation, etc.
- Grader Zoom Support Sessions: These sessions are singularly focused on addressing questions related to grading.

Check the Zoom tab in the navigation menu of your course. Although we try to be consistent for our learners' planning purposes, the schedule is subject to change throughout the course, so stay up-to-date on the event details by checking your Ed and course announcements.

Read about the specific policies related to Zoom meetings directly in your onboarding course and your course pages: Syllabus, ASU Course Policies, and any additional course-specific policy information in the Welcome and Start Here area. Additional information may be included in the Policies section of this syllabus. You are responsible for adhering to all policies.

Zoom Recordings

- Instructor Zoom Events are recorded and shared through the "Zoom" navigation link in your course. These can be found by going to the "Cloud Recordings" tab. These recordings will be unavailable after 120 days.
- IA Zoom Support Sessions are recorded, but not uploaded into the course. It is at the discretion of the instructor if these sessions will be shared during the course session.
- Grader Zoom Support Sessions are recorded, but not uploaded into the course.

Policies

Please refer to the ASU Course Policies section in your course, your onboarding course, and the Welcome and Start Here section of your course in addition to the policies listed in this section.

Code of Conduct

The aim of education is the intellectual, personal, social, and ethical development of the individual. The educational process is ideally conducted in an environment that encourages reasoned discourse, intellectual honesty, openness to constructive change, and respect for the rights of all individuals. Self -discipline and a respect for the rights of others in the university community are necessary for the fulfillment of such goals. The Student Code of Conduct is designed to promote this environment at Arizona State University.

The Student Code of Conduct sets forth the standards of conduct expected of students who choose to join the university community. Students who violate these standards will be subject to disciplinary

sanctions in order to promote their own personal development, to protect the university community, and to maintain order and stability on campus.

Students are expected to follow the ABOR Student Code of Conduct and the ASU Student Code of Conduct at all times.

Expected Behavior

Students are expected to follow the ASU Student Code of Conduct and are expected to acknowledge and embrace the FSE Student Professionalism Expectation.

An instructor may withdraw a student from a course with a mark of “W” or “E” or employ other interventions when the student’s behavior disrupts the educational process. For more information, review SSM 201–10.

If you identify something as unacceptable classroom behavior (e.g., in Canvas, Ed Discussion, Zoom, etc.), please notify the course team.

Our classroom community rules are to:

- Be professional
- Be positive
- Be polite
- Be proactive

Academic Integrity

All engineering students are expected to adhere to the ASU Student Honor Code and the ASU academic integrity policy, which can be found at https://provost.asu.edu/academic-integrity/policy. Students are responsible for reviewing this policy and understanding each of the areas in which academic dishonesty can occur. If you have taken this course before, you may not reuse or submit any part of your previous assignments without the express written permission from the instructor.

All student academic integrity violations are reported to the Fulton Schools of Engineering Academic Integrity Office (AIO). Withdrawing from this course will not absolve you of responsibility for an

academic integrity violation and any sanctions that are applied. The AIO maintains a record of all violations and has access to academic integrity violations committed in all other ASU college/schools.

Use of Generative AI

Use of Generative AI is Generally Permitted Within the Guidelines

Artificial Intelligence (AI), including ChatGPT, are being used in workplaces all over the world to save time and improve outcomes by generating text, images, computer code, audio, or other media. Use of AI tools is generally welcome and even encouraged in this class with attribution aligned with disciplinary guidelines. AI tools might be employed to brainstorm, draft, edit, revise, etc. I will provide examples of how to properly cite use. Any submitted course assignment not explicitly identified as having used generative AI will be assumed to be your original work. Using AI tools to generate content without proper attribution will be considered a violation of the ASU Academic Integrity Policy, and students may be sanctioned for confirmed, non-allowable use. If at any point you have questions about what is permitted, contact the instructor to discuss *before* submitting work.

Copyright

You must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's/learner's original work, unless the student/learner first complies with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

The contents of this course, including lectures (Zoom recorded lectures included) and other instructional materials, are copyrighted materials. Students may not share outside the class, including uploading, selling or distributing course content or notes taken during the conduct of the course. Any recording of class sessions is authorized only for the use of students enrolled in this course during their enrollment in this course. Recordings and excerpts of recordings may not be distributed to others (see ACD 304–06, "Commercial Note Taking Services" and ABOR Policy 5-308 F.14 for more information).

Graded Quiz and Exam Policy

Each course in the MCS program is uniquely designed by expert faculty so that learners can best master the learning outcomes specific to each course. By design, course features and experiences are different across all MCS courses.

In the MCS program, we strive to provide learners with exercises and applied practice beyond quizzes and exams that align with the hands-on nature of the computer science industry. Ungraded practice opportunities may include, but are not limited to: in-video-questions (IVQs), knowledge check quizzes (KCs), module practice quizzes, practice exams, and other coursework. When available, the questions and correct answers are provided to learners. Depending on the type of questions, auto-generated feedback is built into the course to further help learners learn in real-time. Please thoroughly review your course to ensure that you are aware of the types of practice opportunities available to you.

For academic integrity purposes, once grades are made available, learners will see their overall total scores. Like other standardized tests, such as the GRE and SAT, learners will receive a singular grade for the graded quizzes and exams, but the questions, correct and incorrect answers, and feedback to each question will **not** be provided.

If learners desire 1:1 feedback, please send a private thread to the course team on Ed and/or attend a Zoom meeting with the course team. Rather than receiving the exact questions learners had correct and incorrect and the answers to those questions, learners will likely receive the concepts that were covered in the assessment questions so they will know what they need to review prior to other assessments and how to apply this information in their professional environments.

Absence Policies

There are no required or mandatory attendance events in this online course. Different types of Zoom meetings hosted by any course team member do not take attendance. Excused absences do not relieve students of responsibility for any part of the coursework required during the period of absence. If exceptions for graded coursework deadlines need to be made for known excused absences, please reach out to the course team by the end of the second week of the course by sending a private thread to the course team on Ed. Review availability windows and due dates for coursework and schedule

accordingly. The exam availability windows allow for your own flexibility and you are expected to plan ahead.

Review the resources for what qualifies as an excused absence and review the late penalties in the Assignment Deadlines and Late Penalties section of the syllabus and the course:

a. Excused absences related to religious observances/practices that are in accord with ACD 304–04, “Accommodation for Religious Practices” (please see Religious Holidays and Observances).

b. Excused absences related to university sanctioned events/activities that are in accord with ACD 304–02, “Missed Classes Due to University-Sanctioned Activities”.

c. Excused absences related to missed class due to military line-of-duty activities that are in accord with ACD 304–11, “Missed Class Due to Military Line-of-Duty Activities,” and SSM 201–18, “Accommodating Active Duty Military”.

Zoom Meetings

Recording Notice

Instructors will record Zoom meetings. An archived recording will be made available in Canvas for enrolled students, instructors, or support personnel. Creation of recordings for individuals or groups beyond these requires consent from students who are recorded.

Expectations

The environment should remain professional at all times. Inappropriate content/visuals, language, tone, feedback, etc. will not be tolerated, reported and subject to disciplinary action. Review the policy regarding Expected Behavior section of the syllabus, ASU Student Code of Conduct, and FSE Student Professionalism Expectation for more detailed information.

Policy Against Threatening Behavior, per the Student Services Manual, (SSM 104-02)

Students, faculty, staff, and other individuals do not have an unqualified right of access to university grounds, property, or services (see SSM 104-02). Interfering with the peaceful conduct of university-related business or activities or remaining on campus grounds after a request to leave may be considered a crime. All incidents and allegations of violent or threatening conduct by an ASU student (whether on- or off-campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students.

Disability Accommodations

Suitable accommodations are made for students with disabilities. Students needing accommodations must register with ASU Student Accessibility and Inclusive Learning Services (SAILS) office. Students should communicate the need for an accommodation at the beginning of each course so there is sufficient time for it to be properly arranged. These requests should be submitted through the online portal. See ACD 304-08 Classroom and Testing Accommodations for Students with Disabilities. SAILS will send the instructor a notification of accommodations. It is recommended that students communicate with instructors regarding documented accommodations.

Harassment and Sexual Discrimination

Arizona State University is committed to providing an environment free of discrimination, harassment, or retaliation for the entire university community, including all students, faculty members, staff employees, and guests. ASU expressly prohibits discrimination, harassment, and retaliation by employees, students, contractors, or agents of the university based on any protected status: race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, and genetic information.

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 to discuss any concerns confidentially and privately. ASU online students may access 360 Life Services, https://goto.asuonline.asu.edu/success/online-resources.html.

Photo Requirement

Arizona State University requires each enrolled student and university employee to have on file with ASU a current photo that meets ASU's requirements (your "Photo"). ASU uses your Photo to identify you, as necessary, to provide you educational and related services as an enrolled student at ASU. If you do not have an acceptable Photo on file with ASU, or if you do not consent to the use of your photo, access to ASU resources, including access to course material or grades (online or in person) may be negatively affected, withheld or denied.

Course Creator

Dijiang Huang

Dr. Dijiang Huang is an associate professor in the School Computing and Augmented Intelligence (SCAI) at Arizona State University (ASU). He teaches Computer Network and Security (CSE 468) at the undergraduate level and Advanced Computer Network and Security (CSE 548) at the graduate levels. In addition, he had taught computer science courses such as Computer Networks (CSE 434), Cloud Computing (CSE 546), Concepts of Computer Science and Data Structure (CSE 205), Data Structures and Algorithm (CSE 310), and Introduction to Computer Science and Engineering (CSE 101) at ASU. Dr. Huang received his Bachelor of Science degree in Telecommunications from Beijing University of Posts & Telecommunications, China, and his Computer Science and

Telecommunications Master of Science degree and Ph.D. from the University of Missouri-Kansas City.