

**California State University Dominguez Hills**  
**Computer Science Department**  
**Course Syllabus**  
**CSC 451/551 Computer Networks, 3 units, Fall 2020 Syllabus**

**General Information**

**Class Time:** Monday and Wednesday, 4:00pm-5:15pm

**Class Location:** Zoom (Detailed information is provided in the Lecture Zoom Invitation section)

**Professor:** Dr. Sanaz Rahimi Moosavi

**Email:** rahimimoosavi@csudh.edu

**Office:** Zoom (Detailed information is provided in the Office Hour Zoom Invitation section)

**Office Phone:** N/A

**Office Hours:** Monday 2:45-3:30 PM

Wednesday 2:45-3:30 PM

All office hours are held through Zoom by appointment only through email.

**Course Information**

This course introduces fundamental concepts in design and implementation of computer communication networks, their protocols, and applications. Topics to be covered include overview of network architectures, applications, network programming interfaces (e.g., sockets), transport layer, OSI layer, congestion control, data routing, data link protocols, network addressing, and local area networks. Examples will be drawn primarily from the Internet (e.g., TCP, UDP, and IP) protocol suite.

**Required Textbook**

**Data Communications and Networking 5th Edition**, (February 17, 2012) by Behrouz A. Forouzan.

ISBN-13: 978-0073376226

**Prerequisites:** CSC 123

**Course goals:** The goal of the course is to

- Understand the principles and concepts on computer networks
- Understanding terminology and protocols of the computer networking area
- Introduce the student to the major concepts involved in wide-area networks (WANs), local area networks (LANs) and Wireless LANs (WLANs).
- Understanding TCP/IP protocol suite

**Course outcomes**

- An adequate knowledge about computer network concept
- To be familiar with network physical layer and data link layer
- explain key networking protocols and their hierarchical relationship in the context of a conceptual model such as the OSI and TCP/IP and deep understanding of network layer
- Have a theoretical understanding about network application protocols
- Determine and explain different network data communication platform

**Attendance, Preparation, and Participation**

Arriving promptly to class, coming fully prepared, participating actively in the discussions and activities are important components of this part of your grade for the course. Absences must be discussed with the instructor.

**Americans With Disabilities Act:** CSUDH adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with temporary and permanent disabilities. If you have a disability that may adversely affect your work in this class, I encourage you to register with Disabled Student Services (DSS) and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: no accommodation can be made until you register with the DSS. For information call (310) 243-3660 or to use the Telecommunications Device for the Deaf, call (310) 243-2028 or go to: <http://www4.csudh.edu/dss/>

**Computer Information Literacy Expectations**

It is expected that students will:

1. Use Microsoft Word for word processing unless otherwise approved by the instructor,
2. Be familiar with using email as a communication tool and check your official campus email account at least every other day;
3. Be able to access websites and online course materials (Blackboard) which may require Flash and other plug-ins;
4. Use the library databases to find articles, journals, books, databases and other materials;

5. Be able to create an effective PowerPoint presentation;
6. Be able to record audio (ideally video) to share with the instructor via the web; and
7. Have regular access to a computer and internet access for the term of this course.

## Technology Requirements

- **Computer:** You must have access to a reliable computer for this course. If you are on campus, and do not have a laptop, you can check out a laptop from the IT User Services Help Desk via Technology Checkout Program. In addition, the CSUDH Toro Lab offers on campus access to workstations with a wide variety of commonly used software. Visit the CSUDH Academic Technology Online Courses Technical Requirements page for more information on technology requirements.
- **Email:** All email communications from this course will go through your Toromail. Toromail is the CSUDH student email system. Internet and Campus Wireless Network: You must have Internet access to participate in this course. If you are on campus, connect your laptop and mobile device to the internet using the eduroam campus wireless network.
- **Office 365:** Course work will require you to submit work in Word format (.docx files). Active CSUDH students have access to Office 365 (Word, Excel, PowerPoint) for personal desktop and laptop computers at no cost.

## Academic Integrity

Academic integrity is of central importance in this and every other course at CSUDH. You are obliged to consult the appropriate sections of the University Catalog and obey all rules and regulations imposed by the University relevant to its lawful missions, processes, and functions. **All work turned in by a student for a grade must be the students' own work.** *Plagiarism* and *cheating* (e.g. stealing or copying the work of others and turning it in as your own) will not be tolerated and will be dealt with according to University policy. The consequences for being caught plagiarizing or cheating range from a minimum of a zero grade for the work you plagiarized or cheated on, to being dropped from the course.

Students are reminded of the university policy regarding the scholastic honesty. In this course, submission for credit of any assignment, program, test, or examination that is not the student's original work or contains portions of someone else's work (friend/tutor) without being clearly and specifically identified as such, as well as cheating on tests or examination, are violations that will automatically result in a F grade in the course and university disciplinary action.

1. Do not show another student a copy of your homework or projects before the submission deadline.
2. Do not email your project to another student, even if they promise they will not copy it.
3. The penalties for permitting your work to be copied are the same as the penalties for copying someone else's work.
4. If you choose to do your work on your computer, make sure that your computer account is properly protected. Use a good password, and do not give your friends access to your account or your computer system.
5. Do not leave printouts, or thumb drives around a laboratory where others might access them.

**Electronics Device Usage:** During exams/quizzes using any kind of unapproved electronic devices will result in automatic failure for the course (this includes checking messages on the phone from your friend); if there is an emergency inform the instructor. CSUDH Academic Integrity policies are listed in the Catalog. Students are supposed to know what they are, including definitions of cheating, plagiarism, and dishonesty. The following link can be referred for additional information: <http://www4.csudh.edu/student-rights/academic-integrity/>.

**Student Academic Appeal Process:** Authority and responsibility for assigning grades to students rest with the faculty. A grade appeal is permitted when a student can show clear evidence that a grade was contrary to procedures as specified in the course syllabus, was based on prejudice, was capricious, or was the result of computational or clerical error. The presumption is that the grades assigned are correct until there is a clear demonstration otherwise. The burden of proof is heavy, and it rests with the student who is appealing.

## Netiquette

Just as respectful conversational techniques are expected in an on-campus classroom, proper netiquette is important when taking an online class. Please remember that using the written word as we do in an online class can be difficult since we don't have facial expressions or body language to aid us in understanding what you are saying. Good online resources for you to check out are: <http://www.albion.com/netiquette/>

## CSUDH Standards of Student Conduct

All students must conform to the [Standards of Student Conduct](#), which have been established by students and college staff and have been approved by the Board of Trustees. The Standards of Student Conduct are listed in the Academic Policies section of the university Catalog.

## Knowing Your Responsibilities

CSUDH provides you with a wide variety of academic assistance and personal support, but it is up to you to know when you need help and to seek it out. It is your responsibility to keep informed and to obey the rules, regulations and policies which control your academic standing and your life as a CSUDH student. Meeting deadlines, completing prerequisites and satisfying the degree and certificates

requirements, as found in the curriculum guides in this catalog, are all part of your duties as a student. Consult this catalog, the college and school announcements and the schedule of classes for the information you need. Watch for official announcements.

### **Academic Honesty**

Lack of honesty in the classroom is considered a very serious offense. Any form of cheating on tests, turning in work which is not one's own (plagiarism), talking during tests, furnishing false information to instructors or knowingly misrepresenting one-self to the college is grounds for disciplinary action. The consequences of cheating are severe and may include the possibility of expulsion. Visit the [CSUDH Academic Integrity page](#) for more information.

### **Instructor's Rights**

An instructor has the right to remove a student from class at any time he/she considers a student's actions to be interfering with a proper collegiate environment. The instructor may also refer the incident to the Director of Student Discipline & Student Life for disciplinary action as warranted.

**Incompletes:** The grade of I is intended for the rare circumstance when a student who has been successful in a class has an unexpected event occur shortly before the end of the class. I will not consider giving a student a grade of I unless the following three conditions have been met.

1. It is within two weeks of the end of the semester.
2. The student has a grade of C or better in the class.
3. The reason that the student cannot complete the class is properly documented and compelling.

**Behavioral Standards:** Disruptions of class will not be permitted. Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. The instructor may require a student responsible for disruptive behavior to leave class pending discussion and resolution of the problem and may also report a disruptive student to the Student Affairs Office (WH A-410, 310-243-3784) for disciplinary action.

Examples of disruptive behavior include:

- Allowing a cell phone or pager to repeatedly beep audibly
- Playing music or computer games during class in such a way that they are visible or audible to other class members
- Exhibiting erratic or irrational behavior
- Behavior that distracts the class from the subject matter or discussion
- Making physical or verbal threats to a faculty member, teaching assistant, or class member
- Refusal to comply with faculty direction
- Performing a distracting repetitive act such as talking to others
- Email harassment
- Sleeping or reading a newspaper and/or magazine

The contents of course material provided by the instructor, the links contained therein directly and indirectly, and the contents of the said links, are copyrighted. They are provided exclusively for non-profit educational use by the students currently enrolled in this course and for the duration of this semester. No other use or any use by others is allowed without authorization of the instructor in this course and copyright holder(s). No videotaping or recording without instructors' prior permission is allowed in class.

### **Zoom**

This course will use Zoom web conferencing software for online meetings/office hours/online lectures. Go to the [Zoom download page](#) to download and install the Zoom Client for Meetings on your desktop or laptop. Zoom is also available for mobile and tablet devices on the [App Store](#) (iOS) and [Google Play](#) (Android). Visit the [CSUDH Academic Technology Tutorials page](#) for information on using Zoom.

### **Lecture Zoom Invitation**

**Topic:** *CSC 451/551 Computer Networks/Communications and Networks Lecture*

Time: Aug 24, 2020 04:00 PM Pacific Time (US and Canada)

Every week on Mon, Wed, until Dec 2, 2020

Join from PC, Mac, Linux, iOS or Android: <https://csudh.zoom.us/j/95268096271>

Or iPhone one-tap: 16699006833,95268096271# or 13462487799,95268096271#

Or Telephone (not recommended as toll charges apply):

Dial: +1 669 900 6833 (US Toll) or +1 346 248 7799 (US Toll)

Meeting ID: 952 6809 6271

International numbers available: <https://csudh.zoom.us/u/aeuTjPbidV>

Or a H.323/SIP room system:

H.323: 162.255.37.11 (US West) or 162.255.36.11 (US East)

Meeting ID: 952 6809 6271

SIP: [95268096271@zoomcrc.com](mailto:95268096271@zoomcrc.com)

### Office Hour Zoom Invitation

Topic: CSC 451/551 Computer Networks/Communications and Networks Office Hours

Join from PC, Mac, Linux, iOS or Android: <https://csudh.zoom.us/j/94579788346>

Or iPhone one-tap: 16699006833,94579788346# or 12532158782,94579788346#

Or Telephone (not recommended as toll charges apply):

Dial: +1 669 900 6833 (US Toll) or +1 253 215 8782 (US Toll)

Meeting ID: 945 7978 8346

International numbers available: <https://csudh.zoom.us/u/acBZLBfRQX>

Or a H.323/SIP room system:

H.323: 162.255.37.11 (US West) or 162.255.36.11 (US East)

Meeting ID: 945 7978 8346

SIP: 94579788346@zoomcrc.com

### Attendance/Late Work

You are expected to submit assignments by the deadlines. Late work will not be accepted unless you experience a documentable and unforeseeable emergency. You are also expected to log into the course websites to submit assignments on a weekly basis.

***\*\*NOTE: If you are no longer participating in the class it is your responsibility to drop or withdraw yourself from the course. It is not the instructor's responsibility to drop students who are no longer participating in the class***

### Important Dates

| Date           | Description  |
|----------------|--|
| September 7    | Labor Day Holiday (No Classes, Campus Closed)                  |
| November 11    | Veterans Day Holiday (No Classes, Campus Closed)               |
| November 26    | Thanksgiving Day Holiday (No Classes, Campus Closed)           |
| November 27-29 | Thanksgiving Break (No Classes, Campus Closed - Not a Holiday) |
| December 4     | Last Day of Scheduled Classes                                  |
| December 5-11  | Final Exams  |

For more information on campus holidays, visit the [CSUDH Academic Calendar page](#).

### Blackboard Learn

You may access the course through Blackboard Learn <https://toro.csudh.edu>. You have the flexibility in an online course to study and participate according to your work and personal schedule within each week of study. However, you must still complete assignments by their required due dates.

Your challenge is to dedicate the required time for study within your personal schedule. This syllabus, including the schedule and due dates, should support you in managing time effectively. Marking your study and your online discussion time in your personal calendar also will help.

As part of your personal schedule, make sure you check the Announcements and my Online Office several times a week so that you can see if I have posted any new information about the course.

### Need Help with Using Blackboard?

If you are new to Blackboard or unfamiliar with a specific feature of Blackboard, [CSUDH Academic Technology](#) offers a series of PDF and video-based tutorials. Visit the [CSUDH Academic Technology Tutorials page](#) for more information.

### Student / Instructor Communication

Here are some important email communication tips:

- I will generally respond to messages sent to me within 24 hours.
- Please use the discussion board forum (Available in Blackboard), within this course, to post questions regarding coursework and if you have happened to have the answer, feel free to provide it to your fellow students. While I will post responses as well, this forum is primarily for student-to-student communications.

## Assignments and Quizzes

We are planning on having Weekly Assignments, Quizzes, Labs. and a few Discussion Board Topics.

The following rules apply:

- All assignments and quizzes are to be done on the Blackboard site. No exceptions. To use the site with a Windows PC, you must be on a Windows 7 or higher computer running Google Chrome or Mozilla Firefox.
- There will be two network lab assignments where you will have hands-on experience with protocols. These assignments will require you to use [Wireshark](http://www.wireshark.org/) packet sniffing tool to analyze communication between two nodes. Wireshark (<http://www.wireshark.org/>) is a packet-sniffing software that “sees” network protocols by observing the sequence of messages exchanged between protocol entities. [There is a nice YouTube tutorial available.](#)
- Deadlines: All assignments for the course are to be completed and submitted on time in order to receive consideration for full credit of the assignment. No late submission will be accepted after the last day of the course.
- Make-up Work: Late work is not permitted for any assignment in this course. No make-ups are available for any homework, lab session, or examination in this course.
- The deadline for the Lab #1 is November 1st, 2020 at 11:59:00 p.m., and for the Lab #2 is December 6<sup>th</sup>, 2020 at 11:59:00 p.m.
- The deadline for the assignments is as follows:
  1. Assignment #1 is August 30<sup>th</sup> at 11:59:00 pm.
  2. Assignment #2 is September 13<sup>th</sup> at 11:59:00 pm.
  3. Assignment #3 is September 20<sup>th</sup> at 11:59:00 pm.
  4. Assignment #4 is October 4<sup>th</sup> at 11:59:00 pm.
  5. Assignment #5 is October 25<sup>th</sup> at 11:59:00 pm.
  6. Assignment #6 is November 15<sup>th</sup> at 11:59:00 pm.
  7. Assignment #7 is November 29<sup>th</sup> at 11:59:00 pm.
- Quizzes (5 quizzes in total): Each quiz takes 10 – 15 minutes to finish and is supposed to take place at the beginning of the second class of the week.

## Course Policies

- Deliverables (Class Assignments, Labs) submitted late are not accepted without obtaining instructors permission prior to due date.
- Any exceptional, non-academic circumstances need to be discussed with the instructor as soon as they arise, prior to the due date of the deliverable. At the time of the discussion, NO make-up work will be assigned
- The instructor reserves the right not to award credit for deliverables that are incomplete. Partial credit is awarded at the instructor’s discretion, and only for work that merits such an award
- Assignments that are incomplete or incongruous with the specifications may be returned to the student
- Students shall not make any recording (audio or video) of a classroom lecture without having obtained the prior written permission from the instructor
- Students not allowed to take photo from the paper exams during the exam results review in classroom or in the office.
- Extra Credit: The instructor may assign extra credit assignments at any point during the semester

## Examinations

There will be two exams. The first exams will be given during the 8<sup>th</sup> week, the final exam will be given on the date posted in the final examination schedule printed in the campus Class Schedule. The exams will be closed book/notes and include material from the book and lectures. Students are responsible for the any and all materials that will be presented in lecture and textbook. No makeup or early exams will be administered; unless there are serious, unforeseen, and unavoidable circumstances and the student notifies the instructor as soon as possible.

### Grading:

The weighting of the coursework is listed below:

**Homework Assignments: 15%**

**Lab Assignment: 15%**

**Quizzes: 10%**

**Midterm exam: 25%**

**Final Exam: 35%**

### Grade Scale:

The following grading scale will be used:

| Percent    | Grade |
|------------|-------|
| 92% - 100% | A     |
| 88% - 91%  | A-    |

|           |    |
|-----------|----|
| 84% - 87% | B+ |
| 80% - 83% | B  |
| 75% - 79% | B- |
| 70% - 74% | C+ |
| 65% - 69% | C  |
| 60% - 64% | C- |
| 55% - 59% | D+ |
| 50% - 54% | D  |
| <54%      | F  |

### Course letter grades:

For all assignments, their numerical grading equivalent, and course grade, the grading criteria is described as follows:

**A – Outstanding Work:** In addition to the criteria for a “B”, superior knowledge regarding details, assumptions, implications, history; superior thinking with information relevant to application, critique, and relationship to other information. An outstanding mastery of the subject with excellence evident in preparation for and attendance in class sessions, curious and retentive mind, unusual ability to analyze and synthesize material, with a positive attitude making productive contributions to the learning community in the classroom.

**B – Above Average Work:** In addition to the criteria for a “C”, more than adequate knowledge regarding technical terms, distinctions, and possesses an ability to use information. Above average student in terms of attendance, preparation, time management, mostly consistent in test taking, and attitude.

**C – Average Work:** Basic knowledge needed to function and carry on learning regarding major principles, central terms, major figures, also possesses an awareness of field or discipline. Average or typical student in terms of attendance, preparation, time management, inconsistent test taking, and attitude.

**D – Below Average Work:** Serious gaps in knowledge, confusion of concepts and categories, inability to recall basic information. Below average or atypical student in terms of attendance, preparation, time management, inconsistent test taking, and attitude--minimally passing in performance.

**F – Not Acceptable Work:** Absence of knowledge, incapable of carrying on a conversation about the subject, misunderstands most concepts, confuses all categories-- Inadequate/insufficient performance. Repeat course.

**Incompletes** will not be given for this course without extenuating circumstances and convincing reasons demonstrated by the student to the instructor’s satisfaction.

### \* Planed Topics and tentative schedule

| Week | Topic            | Activity  |                          |
|------|------------------|---|--------------------------|
| 1    | Aug. 24,26       | Introduction to Computer Networks & Network Models (Chapter 1 & 2)                  | Assignment #1            |
| 2    | Aug. 31, Sep 2   | Introduction to Physical Layer (Chapter 3)  | Quiz #1                  |
| 3    | Sep. 7, 9        | Introduction to Data-Link Layer (Chapter 9)   | Assignment #2            |
| 4    | Sep. 14, 16      | Wired and Wireless LAN (Chapter 13 & 15 & 16)                                       | Quiz #2<br>Assignment #3 |
| 5    | Sep. 21, 23      | Introduction to Network Layer (Chapter 18)  | Lab #1                   |
| 6    | Sep. 28, Sep. 30 | Network Layer Protocol (Chapter 19)   | Assignment #4            |
| 7    | Oct. 5, 7        | Next Generation IP (Chapter 22)   | Quiz #3                  |
| 8    | Oct. 14          | Midterm (25%)   |                          |
| 9    | Oct. 19, 21      | Introduction to Transport Layer (Chapter 23)  | Assignment #5            |
| 10   | Oct. 26, 28      | Transport Layer Protocol (Chapter 24)   |                          |
| 11   | Nov. 2, 4        | Introduction to Application Layer (Chapter 25)                                      | Quiz #4<br>Lab #2        |
| 12   | Nov. 9, 11       | Introduction to Application Layer and Standard Client-Server Protocols (Chapter 26) | Assignment #6            |
| 13   | Nov 16, 18       | Standard Client-Server Protocols and Network Management (Chapter 26 & 27)           |                          |
| 14   | Nov. 23, 25      | Cryptography and Network security (Chapter 31)                                      | Quiz #5<br>Assignment #7 |
| 15   | Nov. 30, Dec. 2  | Internet Security (Chapter 32)  |                          |
| 16   | Dec. 9           | Final exam (35%)  | Good Luck! 😊             |

\* Planed topics will be conducted according the above table. However, the schedule of the topics or timetable may be varied).

\*\* No classes on 9/7 Monday, Labor Day Holiday and 11/11 Wednesday, Veterans Day Holiday.

\*\*\* Graduate students (CSC 551) need to prepare extra project report or presentation based on an assigned topic to satisfy the graduate requirements for this course. The details of the final report or presentation will be announced later.