

## CALIFORNIA STATE UNIVERSITY, DOMINGUEZ HILLS

**Course No.** : CBY 551  
**Course Title** : *Data Communication and Computer Networks*  
**Prerequisite** :  
**Units** : 3 units (3.5 hours lecture)  
**Meetings** : S 1:00 -4:30

**Instructor/Office/Phone/Fax/E-mail/Office Hours:**

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**Text Book:**

Data and Computer Communications, 10/E  
William Stallings  
ISBN-10: 0133506487 • ISBN-13: 9780133506488  
©2014 • Prentice Hall • Cloth, 912 pp

**Objectives:**

This course introduces topics in information security. It is one of the most relevant areas of computing today. This is a course in the foundational aspects of information security; this is not a course giving you practice in programming. Students will be introduced to what information security means, both in the abstract and in relation to real systems; be able to find out what potential threats could be to confidentiality, integrity and availability of different information systems. This course will also introduce terms and technologies that attempt to address these challenges. The student will also become more comfortable with current information security related issues in the field.

**COURSE GOALS:**

- The course offers a clear and comprehensive survey of the entire data and computer communications field.
- The course emphasizing both the fundamental principles as well as the critical role of performance in driving protocol and network design
- The course explores in detail all the critical technical areas in data communications, wide-area networking, local area networking, and protocol design.

## COURSE OUTCOMES:

Upon completing this course students will be able to:

- To be familiar with the basics of data communication.
  - To be familiar with various types of computer networks.
  - To have experience in designing communication protocols.
  - To be exposed to the TCP/IP protocol suite.
  - To understand functions and protocols within a layer, understand how layers fit together and finally understand how the Internet works.
  - To encourage the students to research into the latest R&D efforts in computer networking technologies.
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- Identify the different types of network devices and their functions within a network.
  - Analyze and summarize research literature describing data and computer communications.

The format of this course includes lectures and hands-on assignments. Students will also complete a project and present it as part of the course. The course contains a project that will include a presentation at the end of the quarter. Students will randomly be asked questions about presentation of their peers during the presentation sessions. Attendance is mandatory.

## GRADES:

The following grading scale will be used:

Score	Grade	Score	Grade
94-100	A	91-93	A-
88-90	B+	84-87	B
81-83	B-	78-80	C+
74-77	C	71-73	C-
68-70	D+	64-67	D
0-63	F		

## GRADING:

The weighting of the coursework is listed below:

<b>Midterm</b>	<b>100</b>
<b>Final Exam</b>	<b>100</b>
<b>Assignments /Projects</b>	<b>500</b>
<b>Final Exam Presentation</b>	<b>100</b>
<b>Midterm Exam Presentation</b>	<b>150</b>
<b>Class Participation</b>	<b>100</b>
<b>Total:</b>	<b>600</b>

## STUDENT ACADEMIC APPEALS PROCESS

Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, error, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

## **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 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.*

## **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.

## **BEHAVIORAL STANDARDS**

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.

## **COURSE POLICIES:**

- Deliverables (Class Assignments, Projects) submitted late are not accepted.
- Deliverables (Class Assignment, Projects) not submitted before the end of the final class will earn 0%.
- 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.

## **MIDTERM & FINAL EXAM:**

Midterm exam is during the 8th week of the class and the date for the final exam is based on the final examination schedule printed in the campus Class Schedule. All projects are due no later than the last week of the semester.

**No makeup or early exams will be administered.**

**Course Outline:**

<b>WEEK #</b>	<b>DATE</b>	<b>TOPIC</b>	<b><i>Reading Assignment/ Computer Lab Topic/In Class Assignments</i></b>
<b>Week 1</b>	TBD	Course Introduction & Requirements/ Overview of References, Blackboard / Fundamentals of data communications and networking	Chapter 1
<b>Week 2</b>	TBD	Protocol Architecture, TCP/IP, and Internet-Based Applications	Chapter 2
<b>Week 3</b>	TBD	Data Transmission	Chapter 3 –Mini Project
<b>Week 4</b>	TBD	Transmission Media/ Signal Encoding Techniques	Chapter 4/Chapter 5
<b>Week 5</b>	TBD	Error Detection and Correction/ Data Link Control Protocols	Chapter 6/Chapter 7
<b>Week 6</b>	TBD	Multiplexing	Chapter 8- Mini Project
<b>Week 7</b>	TBD	Local Area Networks/Ethernet	Chapter 11/Chapter 12
<b>Week 8</b>	TBD	<b>Midterm</b>	Covers Chapters 1-8, and chapter 11-12
<b>Week 9</b>	TBD	Wireless LANs	Chapter 13- Mini Project
<b>Week 10</b>	TBD	WAN Technology and Protocols	Chapter 9
<b>Week 11</b>	TBD	Cellular Wireless Networks	Chapter 10
<b>Week 12</b>	TBD	The Internet Protocol/ Transport Protocols	Chapter 14, and 15- Mini Project
<b>Week 13</b>	TBD	Routing	Chapter 19
<b>Week 14</b>	TBD	Internet Applications: Electronic Mail, DNS, and HTTP	Chapter 24
<b>Week 15</b>	TBD	<b>Final Presentation</b>	<b><i>Due for Project Report, Presentation</i></b>
<b>Week 16</b>	TBD	<b>Final Exams Week</b>	<b>The Final Exam covers all the chapters</b>