Syllabus

CSE 80n: Introduction to Networking and the Internet

Topics:

In this course we will learn about the building blocks of the Internet! The course is an introduction to the evolution, technology, and services of the Internet, with descriptions of its underlying communications structure and network protocols (Layers 1-5 of the TCP/IP Protocol Stack). We will take a look at network applications and many current networking protocols in every-day use, such as HTTP, SMTP (mail), DNS, TCP/IP and basic routing algorithms.   In addition, we will learn about cookies, the binary and decimal numbering systems, IP addressing, IP subnetting, wireless and wired LANs and link layer switches.   Each week we will spend time discussing various current event topics related to today's Internet, such as net neutrality, fake news and targeted advertising. Issues such as data privacy and related concerns will also be covered.

Course Focus:

This course serves as an introduction to computer networks for students of varying backgrounds. As such, every attempt is made to provide resources for students who are not from engineering disciplines.

Prerequisites:

There are no prerequisites as this is an introductory course! If you are very keen on the subject and want a much deeper study, I encourage you to enroll in CSE 150 (now offered every quarter). This class is not meant to be a prerequisite for CSE 150. Students who have previously completed course CSE150 **cannot** receive credit for CSE 80n.

In Person Class:

Lecture and is fully in person.   Lectures are on Tu/Th from 12pm - 2pm.

Attendance matters! I value your ideas and contributions to our course. Your attendance and attention in class helps our whole community learn. Occasionally, we might end lecture early and time will be given to ask questions and interact with your classmates through group activities.

Learning Outcome:

After taking CSE 80n you will be able to:

- describe the evolution of the Internet and World Wide Web
- understand the difference between the Internet and the World Wide Web
- identify the layers of the TCP/IP Protocol stack
- describe how data is transferred through packet switched networks
- identify the protocols employed from the time a URL is entered in the browser until the requested content is retrieved, finally loaded and displayed for the end user

Evaluation:

6 Quizzes	60%
Homework	5%
Participation	5%

Packet Tracer Assignments	10%
Final Group Project	20%

Grading Scale:

Overall Score	Letter Grade
>98	A+
94 - 97	A
90 - 93	A-
87 - 89	B+
83 - 86	B
80 - 82	B-
77 - 79	C+
73 - 76	C
68 - 72	C- and NP

Quizzes: There will be 6 quizzes given in class throughout the quarter. Quizzes are modeled on lecture and homework. The quiz problems are multiple choice, true/false

and free response. if you miss a quiz there will be a makeup quiz at the end of the quarter (during Week 8) for anyone who missed a quiz or wants to improve their current score.

Homework: Homework problems are assigned weekly. Collaboration is allowed, but please note who you worked with on your assignment. Submit individually.

Packet Tracer Assignments: Several assignments will be given using Cisco's Packet Tracer software.   This software allows you to set up networks and practice with some of the protocols we will be studying during the quarter.

Attendance (Lecture and Section): Engagement in the course makes it more interesting for everyone - please attend class and section. Ask questions!   To encourage your attendance, we have an attendance policy in which attendance will be counted as part of your overall course grade.

Final Project: At the end of the quarter, you will work on a research project of your choice. You will give an oral and visual (slides) presentation of your research project in front of the class. As the course progresses, keep in mind topics that interest you!

Class Resources:

Texts: Many of the lecture slides are modeled directly from the text Computer Networking: A Top-Down Approach by Kurose and Ross. The 5th, 6th or 7th editions will all be ok.   Short weekly reading assignments will be given from this book.

- You are not required to purchase any books for this class, but it is helpful to have access.   Links to other excellent resources will be posted weekly as we proceed through the course topics.

Lecture Notes: A PDF of the lecture slides will be posted on Canvas.

Weekly Action Items:

- Homework assigned: Due Monday 11:59pm
- Quizzes: Quizzes are given at the start of class on Tuesday.
- Packet Tracer Assignments - several throughout the quarter
- Final Group Research Project: Presentations on the final exam day, in person.

Concerning Covid-19:

Please refer UCSC Covid policy.

Disability Resource Center (DRC):

UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me by email, preferably within the first two weeks of the quarter. I would also like us to discuss ways we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at 831-459-2089 or by email at drc@ucsc.edu.

Academic Integrity:

In recent years, there has been an increased number of academic integrity violation incidents in many UC campuses, and unfortunately, UCSC is no exception. The School of Engineering has a zero tolerance policy for any incident of academic dishonesty. If cheating occurs, it will result in academic sanctions in the context of the course (a score of 0 on assignment or quiz/exam) and every case of academic dishonesty is referred to the students' College Provost, who then sets the disciplinary sanctions. Cheating in any part of the course may lead to failing the course and suspension or dismissal from the University.

What is cheating? In short, it is presenting someone else's work as your own. Examples would include copying another student's written or electronic homework assignment, or allowing your own work to be copied. Although you may discuss problems with fellow students, when you submit an assignment with your name on it, it is assumed it is your own work. If you use ideas or text from others, you MUST cite your sources and give credit to whoever contributed to your work.

If there are any questions on what constitutes academic integrity violations, please make sure to talk to the instructor and/or the TAs for clarification. You are also referred to Academic Misconduct for additional information on UCSC's academic integrity policies.

MIsconduct specific to this course: any instances of collaboration on quizzes and/or submitted homework assignments will result in a score of 0 and the reporting outlined above will occur. How can you protect yourself?   Make sure that anything you submit is your own work and presented in your own words. Copying (copy/paste) directly from any source during an exam, including friends, classmates, Google, Reddit, Canvas, class notes and class slides is not allowed and will receive zero credit.   When in doubt -- ask your instructor.