

IC322 – Computer Networks

Instructors:

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Program Education Objectives:

The course presents the fundamental theoretical concepts, characteristics and principles of computer communications and computer networks, and analyzes and assesses these foundational concepts with respect to network performance and network design. Prereq: IC221, Coreq: SM242.

ABET Program Outcomes:

- (Outcome a) An ability to apply knowledge of computing and mathematics appropriate to the discipline.
- (Outcome i) An ability to use current techniques, skills, and tools necessary for computing practices.
- (Outcome e-L) An understanding of legal issues and responsibilities.
- (Outcome g-O) An ability to analyze the local and global impact of computing on organizations.

ABET Learning Objectives:

Students will:

- Evaluate the operation and performance of practical computer-network protocols for communications. Supports Program Outcome (a).
- Understand fundamentals of network communications include routing, congestion control techniques, internetworking, addressing, connection establishment, and reliable transport. Supports Program Outcome (a).
- Develop client-server applications for communicating across a network. Supports Program Outcome (i).
- Use modern tools to analyze network traffic. Support Program outcome (i).
- Understand the legal and moral issues associated with network communications and the world-wide effects of illicit hacking. Supports Program Outcome (e-L), (g-O).

Required Texts:

Computer Networking, A Top Down Approach, James F. Kurose and Keith W. Ross, 6th Ed. 2013, ISBN 978-0-13-285620-1

- Student online resources from the publisher:
http://wps.pearsoned.com/ecs_kurose_compnetw_6/216/55463/14198700.cw/index.html

Absences:

Students are responsible for obtaining any material missed due to an absence. Additionally, students must ensure that their work is submitted by the deadline regardless of other commitments, e.g., duty, SIR, movement orders. Should bona fide emergencies arise, e.g., emergency leave, hospitalization, it is the responsibility of the student to coordinate with the instructor.

Honor:

Collaboration on laboratory and homework solutions is encouraged. The sharing of ideas must be properly documented. **Specifically – if you receive help from any person on a lab or homework assignment, you must list that person’s name on the assignment that you hand in.** Design and implementation must be the work of the individual submitting the final product.

"Midshipmen are persons of integrity...we ensure that work submitted as our own is our own, and that assistance received from any source is authorized and properly documented."

- excerpt from Brigade Honor Concept.

It can be especially hard to cite material found on the Internet, and it’s tempting to “copy and paste” from the work of others. Copy and pasting without the use of proper citations is a common form of plagiarism – and simply put, it’s dishonest.

- Superintendent’s 29 Sept 2010 email

The Nimitz Library website provides good guidance on citations. Read it at <http://intranet.usna.edu/Library/reference/subjects/info-ethics/cite.html>

All work on exams must be your own in accordance with USNAINST 1610.3F, USNAINST 1531.53, and COMPCIDEPTINST1531C. These references can be found at <http://intranet.usna.edu/CS/resources/honor.htm>.

Extra Instruction:

Extra Instruction (EI) is available and encouraged when your own attempts to understand the subject matter are unsuccessful. EI may be scheduled or is available

on a drop-in basis. It is the responsibility of the student to identify specific questions with regard to the assigned readings. Requests for EI may be made via email/phone.

Class Decorum

You are a Naval Officer candidate - be professional

- Courteous punctuality
- Inspection-ready uniform
- Do not speak profanely
- Stay awake (closable beverages are permitted in class)
- Participate in the class

Section leader

- Call the section to attention at the beginning and end of class
- Report absences to the instructor
- Contact the department office (3-6800, Room 346) if the instructor is more than 10 minutes late
- Direct the class in productive work if the instructor is absent

Course Grade:

The breakdown on your final grades will be:

- **40% (total): Exams 1 and 2**
- **20%: Final Exam**
- **15% Labs**
- **10% Homework/Quizzes**
- **10%: Course Project**
- **5% Instructor discretion***

* Class participation counts towards your final grade. You are expected to ask questions and offer input during discussions.

Mid-semester grades for the 6 and 12-Week marking periods will be calculated as shown below. Any changes to the grading policy will be announced in class and be reflected by changes in this document.

	6-Week	12-Week	Final
Exam 1	50%	25%	20%
Exam 2		25%	20%
Labs	25%	25%	15%
Homework/Quizzes	20%	20%	10%
Project			10%
Instructor Discretion	5%	5%	5%
Final Exam			20%

Exams:

The 6 and 12-week exams will primarily focus on the recent material. The final exam will be cumulative. If for some reason a make-up exam will be required, inform the instructor at least 1 week in advance.

Project:

Teams consisting of 2 or 3 students will create or analyze a computer based networked system for the Department of Defense. The project requirements, topic and delivery date will be assigned during the semester. No late projects will be accepted without prior approval from the instructor. The project grade will consist of the quality of work and the instructor's estimation of the final group's effort and production.

Labs:

During each lab, an assignment will be given to provide practical application of the material covered. Each assignment must be completed and submitted at the beginning of the following scheduled lab. Late labs submitted within 72 hours receive 50% off their grade. Labs submitted after 72 hours receive a grade of 0. All labs must be submitted by the final day of class in order to pass the course.

Homework/Quizzes:

Homework and quizzes will be given to reinforce the readings and the course material covered. Each assignment must be completed and submitted on the due date. Unless previously arranged, late submissions will not be accepted.

Submitted,
CDR Kevin Blenkhorn

Approved,
Dr. Steve Miner

Course Coordinator

Department Chair