# CPSC360E: Computer Networks

**Fall 2018**

**Class: MW, 4:30-6:00pm in Trexler 363**

**Lab: Th, 3:00-6:00pm in Trexler 363**

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**Office Hours: M 2:00-3:30pm; W 2:30-4pm; Th 2:00-3:00pm; and by appointment.**

## Syllabus

## Course Description

In this course we will learn the fundamentals of networking, network services, various software tools for troubleshooting networks, and network security. Our study will be complemented by laboratory exercises where we will experiment with creating networks, writing networked applications, configuring firewalls, etc.

## Text

*Computer Networking: A top-down approach,* sixth edition, by James F. Kurose and Keith W. Ross, Addison Wesley.

## Prerequisites

CPSC 250, or permission of the instructor. Familiarity with Java and Unix is assumed.

## Intended Learning Outcomes

At the end of this course successful students will be able to:

1. explain the layers in the networking stack, and decipher the contents of network packets,
2. use software tools to troubleshoot networking issues, and
3. read and implement network application protocols as described in Requests for Comments (RFCs) and in the literature.

## Class Attendance

Regular attendance is highly recommended. Regardless of attendance, students are responsible for all material covered or assigned in class.

## Mechanics

The course will meet in class for 3 hours during the week, and there will be a 3 hour laboratory period. The concepts studied in class will be complemented by several programming and laboratory assignments. There will be two tests (on **Wednesday, October 3, and Wednesday, November 14**) in class during the semester. The final exam will be on **Thursday, December 13, from 6:30pm to 9:30pm.**.

Make-up tests will be available *by pre-arrangement only* in case of scheduling conflicts. After the test, makeups will be available only in case of documented medical emergencies.

Besides the exams, there will be quizzes in class, regular homework assignments and short programming projects, and a co-curricular requirement.

This course expects you to spend *at least* 15 hours of work each week inside and outside of class.

**Quizzes**: Quizzes will be in class and will be announced one class period before the quiz.

**Programming projects**: There will be several short programming projects assigned during the semester. Programs will be graded on correctness, style and documentation. Programs are due by midnight on the assigned date. **No late programs will be accepted.** All programs are to be turned in by email; instructions for submission will be given in the assignment handout.

**Co-curricular Requirement**: The Mathematics, Computer Science and Physics department offers a series of discussions that appeal to a broad range of interests related to these fields of study. These co-curricular sessions will engage the community to think about ongoing research, novel applications and other issues that face these disciplines. Each student is required to attend at least three of these sessions, and turn in a short paper describing the contents of the session, and his/her *critical reflections* about the topic and content. These papers are due in class within a week of the session. A paper submitted beyond a week from the event being discussed in the paper will not be accepted.

## Grading

The final grade will be computed based on the grades in the tests, the final exam, home works and programming projects according to the following weights.

| Component | Weight | |
|---|---|---|
| Co-curricular | 4% | |
| Home works | 14% | |
| Quizzes | 10% | |
| Programming Assignments | 20% | |
| Tests (3) | 26% | (13% each) |
| Final Exam | 26% | |

The final course grade will be calculated as follows:

| < 60 | 60-62 | 63-65 | 66-69 | 70-72 | 73-75 | 76-79 | 80-82 | 83-85 | 86-89 | 90-92 | > 92 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| F | D- | D | D+ | C- | C | C+ | B- | B | B+ | A- | A |

## Class Attendance and Policies

Regular attendance in class is highly recommended. Regardless of attendance, students are responsible for all material covered or assigned in class.

Cell phones should be kept in your backpacks or pockets (essentially, out of sight), and turned to the silent mode throughout the duration of the class. Please do not remove your cell phones until you are outside the classroom/lab. Similarly, during office consultations or consultations in the lab (even when it is not during regular class time), your cell phones should be out of sight and in the silent mode.

If you use an electronic device such as a tablet or a laptop for note-taking or to read the textbook, the content that is open on the screen should be strictly restricted to documents and pages of relevance to the class. For example, you should not have any social media websites open in your browser window, even if it is in a tab that is not currently in focus.

## Academic Integrity

Students are expected to adhere to the Academic Integrity policies of Roanoke College. All work submitted for a grade is to be strictly the work of the student unless otherwise specified by the instructor. The policies as outlined in the Academic Integrity handbook will be enforced in the course.

Graded programs are subject to the Roanoke College Academic Integrity policies. Copying a program or a portion of a program (even a single line) or reading another person's program to obtain ideas for solving a problem is plagiarism. Other examples of integrity violation include writing code for someone else, using code written by someone else, telling someone else how to solve a problem or having someone tell you how to solve a problem (and using his/her method). These cases apply to any work that is handed in for a grade under the instructor's assumption that the work is your own. Unless specified otherwise by the instructor, discussion among students should be limited to general discussion of concepts and language details, not specific aspects of a solution to the assigned problem.