

**CS 455/555**

**Intro to Networks and Communications**

**First Day Administivia**

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**Intro to Networks and Communications**

**First Things First...**

◆ Weigle

» pronounced “Why-gull”

◆ CS 455/555 - split undergrad/grad course

» grad students will have more homework problems, harder exam questions, and a different final assignment

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# Intro to Networks and Communications

## First Things First...

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### ◆ Course website

- » announcements, clarifications, FAQs posted
  - ❖ check website before emailing me or TA a question
- » lecture notes and assignments will be posted on the schedule page before class
  - ❖ read lecture notes *before* class
  - ❖ bring lecture notes to class and take additional notes
    - ◆ *save a tree - print double-sided!*
  - ❖ lecture notes contain questions and problems that we'll work in class

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# Intro to Networks and Communications

## First Things First...

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### ◆ Blackboard

- » posting grades
- » possibly used for submitting assignments (instructions will come with first assignment)
- » sending email to the class

### ◆ Email

- » check your ODU email every day!
  - ❖ or forward it to some account you do check every day

### ◆ Unix Computer Account

- » you must have a CS department Unix account
- » see me today if you don't have one

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# Intro to Networks and Communications

## So, what things will we learn?

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- ◆ How does the web work?
  - » How does a client find a random web server?
  - » How does a request make its way from a web browser to a web server and how does the reply makes it back?
  - » How is it that all data transmitted arrives intact and in order?
  - » How insecure is the connection and how secure is a secure connection?
- ◆ Why do we get the level of performance that we do?
  - » How do the millions of web requests and responses that transit the ODU campus network every second share the capacity of the network?
  - » Can one control or even improve the performance of their network connections?

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## What is this course about?

### The Internet food chain of technology

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- ◆ Application-level protocols
  - » HTTP, FTP, SMTP (e-mail), and the Domain Name System (DNS)
- ◆ Socket programming and client/server computing
- ◆ Transport protocols TCP and UDP
- ◆ Congestion control principles and algorithms
- ◆ The Internet Protocol IP and Internet routing architecture and algorithms

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# Administrivia

## Prerequisites

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- ◆ CS 270 - Computer Architecture
- ◆ STAT 330U - Intro to Probability and Stats
- ◆ Good knowledge of Java
  - » or enough confidence in your programming skills to be able to learn Java
    - ❖ very much like C++ (but networking code is much easier)
    - ❖ we'll mainly be using simple constructs
- ◆ Program function/operation will be described using UNIX terminology
  - » You should be comfortable with the UNIX file system, file I/O, I/O redirection, basic UNIX program development
  - » Example:  

```
% java prog1 < testScripts/foo > ../bar &
```

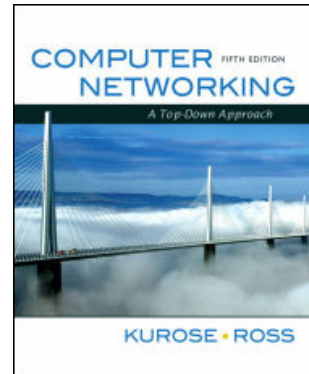
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# Administrivia

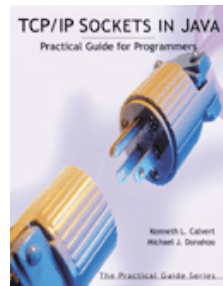
## Textbook

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- ◆ Required
  - » *Computer Networking: A Top-Down Approach Featuring the Internet*
    - ❖ 5<sup>th</sup> edition, by James F. Kurose and Keith W. Ross, Addison Wesley, 2009
    - ❖ 3<sup>rd</sup> or 4<sup>th</sup> editions also acceptable



- ◆ Potentially Useful
  - » *TCP/IP Sockets in Java*
    - ❖ by Donahoo and Calvert



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## Honor Code

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- ◆ All assignments, unless explicitly specified, are to be completed on your own
- ◆ ODU Honor Council <http://orgs.odu.edu/hc/>
  - » cheating, plagiarism, unauthorized collaboration
  - » *all students are responsible for knowing the rules*
- ◆ Evidence of cheating, plagiarism, or unauthorized collaboration will result in a grade of 0 for the assignment/exam and will be submitted to the CS department for further review

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## Honor Code

### Plagiarism is a Serious Issue

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- ◆ IEEE defines 5 levels of plagiarism
  - » 1 - Uncredited Verbatim Copying of a Full Paper
    - ❖ action: prohibited from publishing in IEEE publication for 3-5 years
  - » 2 - Uncredited Verbatim Copying of a Large Portion (greater than 20% and up to 50%) within a Paper
    - ❖ action: prohibited from publishing in IEEE publication for 1-3 years
  - » 3 - Uncredited Verbatim Copying of Individual Elements (paragraphs, figures, etc.)
    - ❖ action: possibly prohibited from publishing in IEEE publication for 1-2 years
  - » 4 - Uncredited Improper Paraphrasing of Pages or Paragraphs
    - ❖ only a few words and phrases have been changed, the original sentence order has been rearranged, no credit notice or reference appears with the text
    - ❖ action: possibly prohibited from publishing in IEEE publication for 1 year
  - » 5 - Credited Verbatim Copying of a Major Portion of a Paper without Clear Delineation
    - ❖ sections of an original paper copied from another paper, credit notice is used but absence of quotation marks or offset text does not clearly reference or identify the specific, copied material
    - ❖ action: possibly prohibited from publishing in IEEE publication for 1 year

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# Administrivia

## Honor Code

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- ◆ No sharing of code is allowed. This includes discussion about the design of a programming assignment solution.
- ◆ Tips to avoid cheating (even inadvertently)
  - » Don't start at the last minute
  - » Don't sit next to each other in the lab and talk about the assignment while you're working on it
  - » Ask the TA or instructor if you're stuck
    - ❖ which means that you can't start at the last minute...
  - » Remember the late policy: 5% per day
    - ❖ I'd rather you turn in something late than cheat

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# Administrivia

## Grading

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|--|-----|
| ◆ Programming Assignments (~5)   | 20% |
| ◆ Written Homework Assignments (~4-5)  | 20% |
| ◆ Mid-Term Exam  | 20% |
| ◆ Final Exam   | 25% |
| ◆ Undergrad Paper / Grad Presentation <ul style="list-style-type: none"><li>» more details will come later in the semester</li></ul> | 10% |
| ◆ Participation / Quizzes <ul style="list-style-type: none"><li>» some quizzes may be unannounced</li></ul>                          | 5%  |

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# Administrivia

## Assignments

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- ◆ Written homework (anything where a hard copy is submitted) is due at the *start* of class on the due date
  - » Anything handed in after I start lecturing is considered late (*don't be late for class!*)
- ◆ Electronically submitted projects are due *before* the start of class
  - » Programs submitted after **2:59:59 pm** EDT/EST on the due date are late!
- ◆ Penalty of 5% of the total points for each day late
  - » day = any part of the 24-hour period after the deadline
  - » weekends count

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# Administrivia

## Where to go for help?

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- ◆ Ask questions in class!
- ◆ Attend office hours
  - » MW 2:30-4pm, or by appointment (send me an email)
  - » E&CS 3214
- ◆ Send questions via e-mail, but...
  - » Think about what you are asking before you ask!
  - » Know the difference between an “office hour question” and an “e-mail question”
  - » Don't depend on an immediate answer
  - » Include the phrase “CS 455:” or “CS 555:” in your subject line
- ◆ E-mail v. Office Hours: Your *primary* avenue for resolving questions is office hours

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## Aside: Emailing Professors

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To: myprof@myschool.edu  
From: sillyname@yahoo.com  
Subject: Hey

can u tell me how to do number 4 on the problem set. i no u went over it in class but i have had a VERY LONG week lol tests ha ha ha and i lost my notes. pleeease help  
Stu

Tips on how to appropriately email a professor:

<http://mledy.blogspot.com/2005/01/how-to-e-mail-professor.html>

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## Aside: Emailing Professors

### General Guidelines

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- ◆ Write a clear subject line that actually summarizes what the question is and what it might be connected to in the course
- ◆ Address the professor in the email, and remember to use "Dr." or "Prof."
- ◆ Give the professor some context for the question, including the particular assignment or activity you're working on.
- ◆ Punctuate. Capitalize appropriately. Use complete words and sentences; *this is not texting*. Check your spelling.

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## Aside: Emailing Professors

### General Guidelines

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- ◆ Be specific and detailed about what the difficulty or challenge is regarding.
- ◆ Ask an actual question, rather than leaving it up to the professor to infer what you don't understand.
- ◆ Be nice and thank the professor for answering.
- ◆ Sign your full name and give whatever institutional markings might be helpful for the professor to keep this in context.

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## Administrivia

### How to do well in this course

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- ◆ Attend class regularly
  - » Ask questions!
  - » *Exercise your understanding of course material on a daily basis*
- ◆ Rigorously test your programs before submitting them
  - » Think of pathological test cases – I certainly will
- ◆ Read over lecture notes *before* class
  - » Take more notes *during* class
- ◆ Study the homework and in-class “thought” problems
  - » Don’t just “do” the homework
- ◆ Take (and *study* your) notes!
  - » Beware the “But I understand this” syndrome

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# How To Do Well

## Last Things

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- ◆ Coding on Unix machines
  - » easiest to use XWin (displays Unix windows on your PC) and an editor like emacs
- ◆ Note the “Useful Links” listed on the course webpage
  - » especially Unix, Java, emacs tutorials
  - » don’t ask me questions that you can find the answers to yourself
    - ❖ example: How do I use the indexOf method in the String class?
- ◆ Get started early!

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## Program 1

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- ◆ Assigned: today
- ◆ Due: next Tuesday *before class*
  - » if you have trouble completing this, or it takes you more than 2 hours, please see me
- ◆ Write a Java program to handle command-line arguments and do some simple String processing
- ◆ Details on course webpage
  - » [Schedule](#) > [Today's date](#) > [Assignment](#)

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# CS 455/555

## Introductions

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### ◆ About Me

- » I'm from Louisiana
  - ❖ so, I'm a *huge* LSU and college football fan
- » I got my PhD from UNC-Chapel Hill
  - ❖ I'm a pretty big Tarheel fan, too
- » My research area is networking



### ◆ Your Turn!

- » Name, major, year, hometown, something interesting about yourself