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# CSCI 6760 - Computer Networks Spring 2017

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# CSCI 6760

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- ▶ **What is the purpose of this course?**
  - ▶ Graduate-level computer networks course
  - ▶ Focuses on understanding how the Internet works:
    - ▶ How do Internet nodes communicate with each other?
    - ▶ What are the network protocols that make this complex interconnection of computer networks exchange data in a reliable way?
- ▶ **We will follow a top-down approach**
  - ▶ Understand how Internet applications exchange information
  - ▶ The client-server paradigm
  - ▶ Transport protocols
  - ▶ Reliable communications over non-reliable packet switching
  - ▶ Network Layer, Routing
  - ▶ The Link layer
  - ▶ Security



# Books

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- ▶ **Textbook:** *Computer Networking: A Top-Down Approach Featuring the Internet, 7/e*
  - ▶ James F. Kurose and Keith W. Ross
  - ▶ Addition Wesley
  
- ▶ **Recommended Readings:** *TCP/IP Sockets in C: Practical Guide for Programmers 2/e*
  - ▶ Michael J. Donahoo and Kenneth L. Calvert
  - ▶ Morgan Kaufmann
  - ▶ <http://cs.baylor.edu/~donahoo/practical/CSockets/>
  
- ▶ **Recommended Readings:** *TCP/IP Illustrated, Volume 1: The Protocols*
  - ▶ W. Richard Stevens
  - ▶ Addition Wesley
  
- ▶ **Other resources:** *The TCP/IP Guide*
  - ▶ Charles M. Kozierok
  - ▶ Available online at: <http://www.tcpipguide.com/free/index.htm>



# How will students be evaluated?

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- ▶ Class participation = 5%
- ▶ Homework = 5%
- ▶ Presentations = 10%
- ▶ Development Projects = 30%
- ▶ Exams = 50%



# Class Participation (5%)

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- ▶ **Class participation is required**
  - ▶ Students will need to sign the attendance log at the beginning of every lecture
- ▶ **Not all topics discussed during lectures are covered in the textbook**
- ▶ **Lectures will be interleaved with assignments/project discussions**



# Homework (5%)

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- ▶ **Other assignments will include**
  - ▶ Pencil-and-paper homework
  - ▶ Hands-on network experiments / analysis
  
- ▶ **Lateness Policy**
  - ▶ Students will be allowed a maximum of 1 late assignment throughout the semester
  - ▶ The submission must occur within 3 days from the deadline
  - ▶ All future late assignments will be given 0 points (only exceptions for well justified medical reasons are possible)



# Presentations (10%)

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- ▶ Throughout the term, students will be required to read academic papers, RFCs, or other docs
- ▶ Will present the topic to the class
- ▶ **NOTE:** Some of the topics discussed in the assigned papers may be part of the exams



# Development Projects (30%)

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- ▶ Students will be required to complete a number of development projects
  - ▶ Mostly developed purely in C
  - ▶ Some others may include use of Java or Python
    - ▶ (other languages conditioned to my explicit approval)
  - ▶ Some projects must be conducted individually
  - ▶ Others may be conducted in pairs (I will indicate which ones), in which case the evaluation will be the same for both students
  - ▶ Project may be evaluated with a **binary criteria**
    - ▶ It works correctly => X points (X depends on project difficulty)
    - ▶ It does not work (does not compile, fails tests, etc.) => 0 points
    - ▶ I will announce possible exceptions to this rule for specific projects
- ▶ Code written for Linux
  - ▶ **Ubuntu** will be our reference distribution
  - ▶ An Ubuntu VM will be assigned to you





# Exams (50%)

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- ▶ **Midterm Exams**

- ▶ Will cover all topics discussed up to ~ one week before the exam

- ▶ **Final Exam**

- ▶ May cover **all topics**
- ▶ Main focus on last part of the course

- ▶ Both Midterms and Final may also contain some questions related to papers assigned for review/presentation



# Overall Grade

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- ▶ Weighted sum of all points

- ▶  $S = 100*(0.05*c/C+0.05*h/H+0.1*p/P+0.3*d/D+0.5*e/E)$

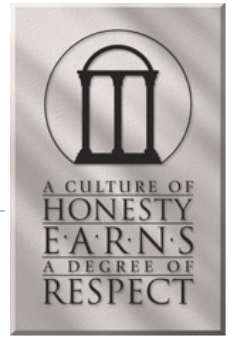
- ▶  $S \geq 90\% = A$        $S \geq 85\% = A-$
- ▶  $S \geq 80\% = B+$        $S \geq 75\% = B$
- ▶  $S \geq 70\% = B-$        $S \geq 65\% = C+$
- ▶  $S \geq 60\% = C$        $S \geq 55\% = C-$
- ▶  $S \geq 40\% = D$        $S < 40\% = F$

- ▶  $c$  = number of classes attended (max: C)
- ▶  $h$  = overall homework points (max: H)
- ▶  $p$  = overall presentation points (max: P)
- ▶  $d$  = overall project development points (max: D)
- ▶  $e$  = sum of all exam points (max: E)



# Academic Integrity

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- ▶ Every student must abide by UGA's **academic honesty policy**
  - ▶ Dishonest behavior including cheating, copying, or forging experimental results **will not be tolerated** and will be reported according to UGA's policies
  - ▶ Specific to Development Projects:
    - ▶ You are **allowed** to search for examples of network programming and related documentation
    - ▶ You are **not allowed** to reuse other people's code (no cut and paste!)
      - ▶ Use examples to understand how the code works and then **write your own code**
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# Logistics

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- ▶ **Course Website**

- ▶ <http://www.cs.uga.edu/~perdisci/CSCI6760-S17/>
- ▶ I will post info on topics covered in class, assignments, projects, and related deadlines



# Logistics

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- ▶ **As a reminder... Classes are on**
  - ▶ Monday: 2:30-3:20pm
  - ▶ Tuesday and Thursday: 2pm-3:15pm
  - ▶ All classes in GSRC 208
  
- ▶ **Office hours**
  - ▶ Tuesday and Thursday 1-2pm
  - ▶ GSRC Room 423
  
- ▶ **TA**
  - ▶ TBD



Questions?

