CS 355, Computer Networks, 3 credits, Fall 2015
CRN: 45896
Meets: MW, 1:30-2:45, Dana 318

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Office Hours Mondays 9-11, Wednesdays 9-11, Fridays 1:30-2:30, and by appointment.

Course Description
This course provides a solid foundation in the design and implementation of a computer network. Topics will focus on network standards and standardization bodies; a layered network architecture; circuit and packet switching; streams and datagrams; physical media and network access; media access and LAN addressing; internetworking and routing; and transport layer services. Also presented are application layer protocols used on the web, file transfer, and electronic mail; and network security including cryptography, encryption, and authentication protocols.

Course Objectives
The goal of the course is to study the fundamentals of interconnecting computers to share ‘resources’. We will cover topics such as the OSI reference model, the Internet model, the role of a layered networking architecture, application layer protocols such as http and ftp, transport protocols such as TCP and UDP, congestion control techniques, and error detection and correction at the link layer.
What this course is not - this course is not a course on network administration or network programming. Although we will experiment with packet sniffing and socket programming, we will not be physically connecting computers and will not be doing any extensive network programming. This course focuses on the fundamentals of computer networks which would explain “how things work.”

Course Pre-requisites
CS 114 and CS 211

Expectations
Each student is expected to attend classes and take notes. Read the textbook(s) before attending class. Turn in homework, and other assignments on time. Take quizzes and exams as scheduled.
The instructor is available for help during scheduled office hours (check "Instructor Information") and also by appointment. Please do not wait until a test to get help. Seek help as soon as possible.
You will need to allocate about 10 hours of your week towards this course. This time will be used for the following:
• reading the chapters in the text book assigned
• completing activities assigned
• completing homework assignments
• studying for your tests and exams

Textbook
Computer Networking: A Top-Down Approach, 6/E
James F. Kurose, University of Massachusetts, Amherst
Keith W. Ross, Polytechnic University, Brooklyn
©2013 • Addison-Wesley • Cloth, 864 pp
Published 02/24/2012

Software
Download latest version of:
• Portable Python 2.7.3 - http://www.portablepython.com/
• Wireshark - http://www.wireshark.org/
Reading Assignment Schedule

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Course Policies
Email & Blackboard
Course materials (announcements, homework assignments, etc.) will be made available through Blackboard at http://blackboard.hartford.edu. Blackboard is to be used as a supplement to class lectures. All important announcements will be made in class. Routine announcements will be made available on Blackboard. However, you are responsible for all announcements and expectations explained in both Blackboard and during class. You are not to rely solely on Blackboard.

Your Blackboard account allows you to personalize your information, including your preferred email account. In your "Blackboard Home Page" on the left frame, there is a "Personal Information" link which allows you to edit your information. It is your responsibility to make sure that the email account set here is the one you check regularly and that the Inbox for that email is not rejecting incoming mail.

Grading
All oral and written work submitted must be of the highest quality. You will be graded on your performance and quality of the work required and not on the amount of time spent nor amount of effort. Any piece of work turned in for a grade is subject to an oral examination and the grade for the work hinges on the result of the student’s knowledge, not what is submitted.

Final Grade:
Expect one homework assignment for each chapter covered. With the exception of Chapter 1, expect a test after each chapter. A project will be assigned at the end of the semester to allow students to research and present a topic relating to computer architecture.

Final letter grades are assigned as follows:

<table>
<thead>
<tr>
<th>Assignments - roughly 1 per week</th>
<th>40%</th>
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<tbody>
<tr>
<td>Test 1</td>
<td>20%</td>
</tr>
<tr>
<td>Test 2</td>
<td>10%</td>
</tr>
<tr>
<td>Test 3</td>
<td>10%</td>
</tr>
<tr>
<td>Test 4</td>
<td>10%</td>
</tr>
<tr>
<td>Test 5</td>
<td>10%</td>
</tr>
</tbody>
</table>

Final letter grades are assigned as follows:

<table>
<thead>
<tr>
<th>100 to 94 = A</th>
<th>87 to 89.99 = B+</th>
<th>77 to 79.99 = C+</th>
<th>67 to 69.99 = D+</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 to 93.99 = A-</td>
<td>84 to 86.99 = B-</td>
<td>74 to 76.99 = C-</td>
<td>64 to 66.99 = D</td>
</tr>
<tr>
<td>0 to 59.99 = F</td>
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</tr>
</tbody>
</table>

Due Dates: Due dates are to be watched carefully! If you miss an assignment (after 3rd day - see Homework Policy) or exam, you are not able to submit the work anymore. This means that you receive a 0 for any missed work.

Pass/No Pass Option Students: Students who are registered with a PASS/NO PASS option must receive a final grade of 65 or better to receive a P.

"My Grades"
Up-to-date grade information is available 24/7 under "My Grades". It also shows your "Weighted Total". This is your up-to-date, cumulative, weighted grade.

Class Participation

<table>
<thead>
<tr>
<th>Level of participation</th>
<th>Rubric</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>• Actively supports, engages and listens to peers (ongoing)</td>
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</table>
Homework Assignments
All homework assignments are to be worked on independently by each student. Discussions as to what the problem is and very general, top-level solutions are allowed between students. Work may not be copied from another source and will constitute cheating if done so. Any work, or part of your work, that is borrowed from another source must be stated so in the assignment and must be pre-approved by the instructor or preceptor. Failure to do so will constitute plagiarism.
Each assignment must be submitted by following instructions posted on Blackboard. Electronic submissions are due at the end of the day (11:59 pm) on the date due. All assignments must be submitted through Blackboard (View/Complete... link). Do not email your assignment to the instructor or preceptor. No homework is accepted via email. Similarly, no assignment will be submitted through the Digital Dropbox unless it is pre-approved by the instructor.
All assignment submitted is subject to an oral examination. Upon the request of the instructor, the student will explain (in person) the work submitted. The grade of the assignment hinges on how well the student knows and understands what was submitted.
Late Penalty: Any assignment that is late will receive a deduction of 10% every 24 hours (a day). Work that is more than 3 days late will not be accepted. Assignments of which answers have been given will also not be accepted. For example, if an assignment is due Friday evening and if you turn it in anytime on Sunday, the grade is deducted 20%; any work turned in after the following Monday will receive a grade of 0.

Test and Examination
All tests and exams are closed book exams and typically take the entire class period. Make up exams will not be given except in cases of extremely extenuating circumstances and are pre-arranged.

UH Academic Honesty Policy: Strictly Enforced
Your work for this course (assignments, labs, quizzes, tests, exams) must be completed by you - the student - without the help of external sources such as the Internet or a friend. **Googling answers online is NOT ACCEPTABLE and constitutes academic dishonesty.**

At the first violation of academic dishonesty, the student receives a 0 for the work. On second offense, the student receives an F for the course.

**Academic Misconduct:** In the event that it is determined that you violated the Academic Honesty Policy, found in "the Source," the dean of your college will be notified and a note will be placed in your permanent file. If previous violations have been filed, any penalty that may be assigned for the offense may be more severe than for a first time offense. If this is the first recorded offense, subsequent violations of the honesty policy may then incur a steeper penalty.

**Email & Blackboard**

Course materials (announcements, homework assignments, etc.) will be made available through Blackboard at http://blackboard.hartford.edu. Blackboard is to be used as a supplement to class lectures. All important announcements will be made in class. Routine announcements will be made available on Blackboard. However, you are responsible for all announcements and expectations explained in both Blackboard and during class. You are not to rely solely on Blackboard.

Your Blackboard account allows you to personalize your information, including your preferred email account. In your "Blackboard Home Page" on the left frame, there is a "Personal Information" link which allows you to edit your information. It is your responsibility to make sure that the email account set here is the one you check regularly and that the Inbox for that email is not rejecting incoming mail.

**Student Illness**

The instructor recognizes that students may occasionally become incapacitated by a brief illness or injury and will be unable to attend class or complete a graded assignment or test on time. In the latter case, you are expected to notify your instructor (in advance if at all possible) that you cannot complete the work due to illness or injury. Following the **University of Hartford's Policy of Student Illness**, as listed on The Source, the student must:

1. visit the University Health Center, a doctor, or hospital for treatment on the day that you are sick and get documentation of the visit,
2. email the instructor in advance (or if not possible, within 24 hours of missed class, test, or assignment) to tell her that you cannot attend (and/or complete work) and that you are seeking or have sought treatment, and
3. as soon as you are able to come to class, bring your documentation of your doctor's visit to your instructor and arrange to make up missed work.

Allowing you to make up missed tests and assignments is at the instructor's discretion. For extended illness (a week or more), email the academic services office of YOUR college or school. Documentation of treatment is required. Do not visit the University Health Center after the day you are sick. They will not issue documentation that you were sick on the previous day.

**Participation and Attendance**

Students are expected to attend ALL classes and are responsible for missed classes and lecture materials. Again, you are expected to attend every single class during the semester. Additional material will be provided and covered in class as the instructor deems appropriate. Any material and information you miss is your responsibility. No excuses will be accepted for poor grades. If you must be absent from a class, you must let me know either by phone or e-mail and you are responsible for any material covered or
Informing me of your absence does NOT excuse you from any work due that day nor permit you to makeup an exam.

**Computer and Other Electronic Equipment-use Policy**

When classes meet in a room equipped with computers, students are expected to use the computers for the purposes of completing assigned work only. At no circumstances will a student be allowed to surf the Internet, check email during a class, or use the computers for any other purpose. In violation, a student will face serious consequences. Use of any electronic equipment (or otherwise) that is annoying or disrupting is not allowed in class. Such devices include mobile phones, beepers, PDAs, laptops, among others.

**Students with Special Needs**

Student athletes and students registered with Learning Plus must inform the instructor of their special needs as soon as possible. This also applies to other students with any other concerns. The instructor will accommodate the student based on their special needs.