

## **CNT 4704: Analysis of Computer Communication Networks (Fall 2014)**

**Instructor:** Dr. Cliff Zou (HEC 243), 407-823-5015, czou@cs.ucf.edu

**Course Time:** MoWe 9:00am – 10:15am , ENG1-384

**Office Hour:** MoWe 10:15am-11:45am

**Course Webpage:** <http://www.cs.ucf.edu/~czou/CNT4704-14/>

### **Prerequisites:**

STA 2023 and (COT 3100 or MAD 2401)

Programming knowledge on C (or C++)

Basic knowledge on Algorithms and Operating systems

### **Description:**

This course introduces the fundamental concepts in computer communication networks, their protocols, and applications. Topics to be covered include: overview of network architectures and applications, network programming interfaces (e.g., sockets), transport, congestion, routing, and data link protocols, addressing, local area networks, wireless networks, and network security. Examples will be drawn from the Internet (e.g., TCP, UDP, and IP) protocol suite, and from many real world cases.

In current world, almost everything is computerized and everything is connected. Knowledge on networking becomes as indispensable to Computer Science students as Algorithms or Operating Systems. Network related jobs compose a large portion of the job market in IT industries. Therefore, computer networking knowledge and skill will be critical for Computer Science students in their future career.

In the Wireshark assignments, students will learn how to monitor the real network traffic in and out of their own computers. They will also learn how to manually send out a fake email (to know that how easy for attackers to send spam email). In the programming assignments, students will program basic but realistic client and server code to communicate to each other on two separated machines. They will also program to learn how TCP works and how Internet routers work based on simulators programmed in C.

### **Online Video Streaming:**

We will use UCF Tegrity system. Each lecture's video will be posted online about two hours after the corresponding face-to-face lecture time. We will also use WebCourse for student discussions, questions and answers, homework/project assignment and submission.

### **Textbooks:**

Computer Networking: A Top Down Approach Featuring the Internet (6th edition), J.F. Kurose and K.W. Ross, Addison-Wesley Longman, 2013. **(4th or 5th edition of this book is also OK)**

**Grading Policy:**

The final grade will use +/- policy, i.e., you may get A, A-, B+, B, B- ... grade. Because this class has online session, the two exams are open book and similar to all regular homework assignments, except that they have a 24-hour submission constraint.

Coursework	Approximate amount	approximate percentage
Written homework	3	24%
Programming projects	3	36%
Lab assignments (Wireshark)	2	14%
Midterm exam	1	13%
Final exam	1	13%

**Attention to students who receive federal student aid:** As of Fall 2014, all faculty members are required to document students' academic activity at the beginning of each course. In order to document that you began this course, please complete the first homework assignment on WebCourse by the end of the first week of classes, or as soon as possible after adding the course, but no later than August 27. Failure to do so will result in a delay in the disbursement of your financial aid. This first homework assignment will not be graded or counted in final grading.