INFS 612: Principles and Practices of Communication Networks [3 credits] Spring 2017

GMU Catalog Description
Introduces principles of computer networks and applications to Internet. Discusses details of layering, protocols, performance, resource allocation, management, security and other contemporary issues related to networks. Examples of course material are protocols such as HTTP(S), DNS, TCP/IP, RSVP, SNMP, algorithms such as Dijkstra's link state routing; and security measures such as firewalls and encryption, the principles behind them and analysis of performance.

Prerequisites
INFS 501, 515, and 519; and SWE 510 or equivalent

Topics covered:
The topics covered correspond to selected chapters in the textbook, *Computer Networking: A Top-Down Approach, 7th Edition*, by Kurose and Ross There will be additional readings made available through GMU's Digital Library, including articles form the ACM and IEEE Digital Libraries and supplemental material presented during class sessions.

1. Computer Networks nd the Internet
2. Application Layer Protocols
3. Transport Layer Protocols
4. Network Data and Control
5. Loxal Area Networks
6. Mobile Networks
7. Network Security
8. Multimedia Networks

Required Textbook:
Computer Networking: A Top-Down Approach, 7th Edition, byu Kurose and Ross.

Course dates: Thursday, January 26 through Thursday May 11
Location: Arts and Design Building, Room 2026
Meeting day & time: Thursdays, 7:20pm to 10:00pm. Please arrive at class on time. We will start on time, have a short break in the middle of each class session, and will finish not later than 10:00pm.

Blackboard: mymason.gmu.edu All assignments, class announcements, schedules, files and presentations will use Blackboard.

Instructor Information: John D. McDowall, Ph.D. (GMU 2015)

Professor's email: jmcdowal@gmu.edu
In the Subject line of your email, use the prefix INFS612;
For example: Subject: INFS612: Question about Assignment #1

CS Office location: Nguyen Engineering Building, Room 4300 (see administrator)

Office hours: Call or email for appointments.

Phone: 703-346-5181 (Okay to call at any time and leave message on voice mail)

Teaching Assistant (TA): None

Grading Policy

Student grades will be determined based on class participation, assignments, research paper review, research paper, and final exam.

Grade Component	Weight
Class participation (in class and online discussions)	10%
Assignments	30%
Project	30%
Final Exam	30%

Grading guidelines: Note that some assignments are evaluated *subjectively*:

A: means *consistently above and beyond* the course/assignment requirements
B: means *meets and occasionally exceeds* the course/assignment requirements
C: means *minimally meets* the course/assignment requirements
F: means *fails to meet* the course/assignment requirements

Some assignment components are evaluated objectively:

A : 95-100%
A- : 90-95%
B+ : 85-90%
B : 80-85%
C : 70-80%

Honor Code

All work performed in this course will be subject to GMU's Honor Code. Students are expected to do their own work in the course unless a group project is approved by the instructor. In papers and project reports, students are expected to write in their own words, rather than cutting-and-pasting from sources found on the Internet. When you do cite material from books, articles, and the Web, enclose the material in quotes and provide a reference. If a paragraph is used then it should be indented in the text (both left and right margins).

Assignments

Format: PDF is preferred, but I will accept: plain text, HTML, StarOffice/OpenOffice, Open Document Format, MS Office. Upload all assignments to Blackboard.

Style: Research papers should follow either the IEEE or ACM format and use the Chicago Manual of Style for guidance on citation style, usage, etc. (If you prefer a hard-copy reference, don't buy the big CMS. See the smaller A Manual for Writers by Kate Turabian). The easiest way to manage references and source citations is to use a citation manager such as Zotero.

Student programming projects must adhere to the CS Honor Code.

There a several Computer Labs available for general use by IT&E students, which are located on the Fairfax campus. For more information go to the web site at http://labs.ite.gmu.edu/.

Class Participation: Contribute to the in-class discussions, participate in online discussion topics posted on Blackboard. *Some online discussion topics might be selected for grading*.

Other Notes

- There will be reading assignments; *I expect that you have actually read them*!

- Lectures will augment reading material; lecture material will be asked about on assignments, project, and on final exam. *Unless I explicitly state otherwise, assume all material will be on the exam*.
- Lecture slides (from textbook authors and from instructor's additional material) will be posted on Blackboard.
- Course content:
  - Some material you may already know (good! that's review!)
  - Some material you may have learned earlier and have forgotten (good! you'll be reminded)
  - Some material you may know more than the instructor (good! share it!).
- ***Turn cell phones to silent mode***; if you need to make an urgent call, leave the classroom. If you need to text, check emails, or other activity, do not disturb other students.
- Call or email the instructor if you anticipate being late or absent.
- Personal Safety and Security: The Mason Alert system provides emergency information of various sorts. Students can sign up for it by visiting the website https://ready.gmu.edu/masonalert/. Students are also reminded that an emergency poster exists in each classroom explaining what to do in the event of crises and that further information about emergency procedures exists on https://ready.gmu.edu/.
- Computer and IT Security: Visit GMU's IT http://itu.gmu.edu/ computer security web site regularly. Norton AntiVirus Software is free to download for all GMU students/faculty/staff.