Course: ENPM 632 – Advanced TCP/IP Networking  
Semester: Spring 2017  
Day(s): Tu  
Time: 7-9:40  
Location: TBA  
Instructor: Pedram Fard  
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Course Description

1) Prerequisites:
   - ENPM 631: TCP/IP Networking
   - Programming Course

2) Class objective:
   Build on the introduction course and expand some of the topics given in the first course, as well as introducing new and more advanced topics

3) Detailed outline including specific modules, if applicable:
   - Review of the introduction to TCP/IP
   - Introduction to the Socket Interface and network programming
   - Policy based routing
   - Advanced topics in IPv6
   - Internet Security
   - Advanced topics in TCP performance, and congestion management
   - Creating a simple web server
   - Mobile IP
   - IP switching and MPLS
   - Mobile IP
   - Voice over IP and QoS
   - Advanced use of Wireshark (statistics, and graphs)

4) Grading policy:
   - Homework: 30%
   - Midterm exam: 30%
   - Project and presentation: 40%

Required/Recommended Textbooks

  By Douglas Comer

- Migrating to IPv6: A Practical Guide for Mobile and Fixed Networks  
  By Marc Blanchet
Course Outline

This course builds on the topics discussed in TCP/IP Networking (ENPM 808F) and provides more in depth discussion of some of the topics as well as more advanced topics such as Multi-protocol Label Switching (MPLS), Mobile IP, IP security, Voice over IP, and detailed discussion about features in IPv6. The focus would be to emphasize on the hands on nature of the class with frequent Wireshark (a network sniffer program) screen shots and some network programming references.