

# ECE 465

# Syllabus

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**Home** **Computer Networking Protocols**

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**Syllabus**

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**Project**

ECE 465

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**Homework**

Spring 2010

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**Latest News****Instructor**

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**Lectures**

Dr. Shujia Gong

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**References & Other**

Tel.: 993-3442

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**Schedule**e-mail: [sgong@gmu.edu](mailto:sgong@gmu.edu)WWW: <http://classweb.gmu.edu/sgong/ece465/ece465.html>**Time and Place**

Monday and Wednesday, 4:30-5:45pm, Robinson A, room 208.

**Office Hours**

Monday and Wednesday, 3:20-4:20pm, Thompson Hall, Room 3

**Required Textbook**

1. James F. Kurose and Keith W. Ross, Computer Networking - A Top-Down Approach, Fifth Edition.

**Recommended Further Reading**

1. Michael J. Donahoo and Kenneth L. Calvert, TCP/IP Sockets in C, Morgan Kaufman Publishers, 2001.
2. Kenneth L. Calvert and Michael J. Donahoo, TCP/IP Sockets in Java, Morgan Kaufman Publishers, 2001.
3. Numerous other texts on TCP/IP networks exist and can be used as supplementary material.

**Homework**

will be assigned every week and is due the following week. Homework will be collected and graded by the teaching assistant.

You are encouraged to work on the assignments in small groups. Do not refer to homework solutions distributed in previous semesters; copying from old solutions constitutes plagiarism and will be handled in accordance with the Honor Code. Homework solutions will be made available. Late submission will result in 10% deduction on the score per day.

**Exams**

A Midterm and a Final Exam will be given during the semester. Make-up exams are rarely given. In case of an emergency, contact me as soon as possible and always before the exam. Failure to take an exam, will result in no credit for the exam. All exams are conducted under the rules and regulations of the Honor Code (see University

Catalog).

### Project

A group design project will be assigned early in the semester and is to be presented in the last class.

### Teaching Assistant: Guruprasad K Rao Iyer

Office Hours:           Fri., 1pm~4pm  
                               Sat., 1pm~2pm  
 Office Location:       Room 3505, Engineering Building  
 e-mail :                 [grao2@gmu.edu](mailto:grao2@gmu.edu)

### On-line Class Material

Class material will be distributed electronically via the World-Wide Web. Use a browser to find the ECE 465 homepage at URL:  
<http://classweb.gmu.edu/sgong/ece465/ece465.html>

### Final Grades

are determined by a weighted average of homework, the two exams, and the final exam in the following manner:

Homework	20%
Midterm	30%
Final	40%
Project	10%

### Tentative Course Schedule

Week	Date	Content
1	1/20	Overview of Internet, network edge, network core
	1/25	Delay, loss and throughput in packet-switched networks; Protocol layers, service models
2	1/27	Network Security, Principles of network applications
	2/1	Web and HTTP
3	2/3	FTP, SMTP, POP
	2/8	DNS, P2P File Sharing
4	2/10	Socket Programming
	2/15	Basic Queuing Theory (1)
5	2/17	Basic Queuing Theory (2)
	2/22	Transport Layer, multiplexing and demultiplexing
6	2/24	Connectionless transport: UDP
	3/1	Principles of Reliable Data Transfer
7	3/3	Principles of Reliable Data Transfer (2)
	3/8, 3/10	Spring Break
8	3/15	Midterm exam
	3/17	Connection-oriented transport: TCP
9	3/22	Principles of congestion control
	3/24	TCP congestion control

10	3/29	Network Layer Introduction; Virtual circuit and datagram networks; Inside a router
	3/31	IP addressing and DHCP
11	4/5	NAT, ICMP, IPv6
	4/7	Routing Algorithm
12	4/12	Routing Algorithm (2)
	4/14	Routing in Internet
13	4/19	Routing in Internet (2)
	4/21	Broadcast and Multicast Routing
14	4/26	Advanced Topics (Security or MPLS)
	4/28	Review
15	5/5	Final Exam (4:30pm - 7:15pm)

Last modified on 12-JAN-2009