

- Session:** Class: Monday, Wednesday, Friday at 9 am
Lab: Monday or Wednesday at 3pm
- Text:** B. Forouzan, *Data Communications and Networking, 4ed*, New York, McGraw-Hill, 2007.
(5th edition is just published but we will use 4th edition)
Author's web site: http://higherred.mcgraw-hill.com/sites/0072967757/student_view0/index.html
- Prerequisites:** ECET 3400
- Instructor:** Dr. Walter Thain
Office: Q142 (678) 915-7436
ECET Department Phone (with answering machine): (678) 915-7246
Home Phone (before 9 pm): (770) 579-3051
Office Hours: posted at my office, or by appointment
e-mail: VISTA e-mail tool
web: See the 4820 VISTA page and my web site
<http://www.spsu.edu/ecet/wthain/>
- Objective:** Students, after successfully completing this course will be able to demonstrate that they can do the following:
- Demonstrate an understanding of history of telecommunications and the Internet.
 - Demonstrate an understanding of the design principles and operation of the Internet and the TCP/IP protocol.
 - Analyze network scenarios related to data traffic, congestion, and security.
 - Demonstrate an understanding of the configuration and operation of networking devices including: routers, switches, and network analyzers.
 - Solve problems related to the determination of network capacity, protocol functionality, and client-server operations.
 - Demonstrate the ability to configure Linux and Windows-based distributed applications, OS, and network simulation and analysis tools.
- Class Attendance:** On-time attendance is expected. You are responsible for everything covered and all assignments given during classes you miss. Obtain assignments, handouts, etc., for days you miss from classmates, from the VISTA site, or ask me after class. Lab attendance is discussed in the Laboratory Policy section of the syllabus.
- Homework:** Homework will be assigned, and occasionally collected for grading. Homework is for your benefit, so do not fall behind. If you are having trouble, see me or consult with classmates.
Homework turned in for grading may be neatly handwritten unless specified otherwise.
- Quizzes:** There will be three tests over material covered in class and lab. If you miss a test

with an approved absence, you must make it up as soon as possible after your return.

Unapproved absences result in a zero for the test grade. If you must miss a quiz, obtain approval at least **48 hours** in advance of the test. Extenuating circumstances, e.g. a car accident, will be given consideration.

Expected Quiz Dates:

Quiz 1: Friday, September 14

Quiz 2: Friday, October 19

Quiz 3: Monday, November 19

Laboratory Grades:

Each student must perform **all** hands-on lab exercises to pass the laboratory portion of the course. **Department policy requires the student to pass the laboratory portion of the course (earn 60% or better) in order to pass the course.**

Lab exercises may or may not require a lab report or a lab quiz. Those that do not are called check-off labs.

Lab exercises requiring a report or a lab quiz count the same. Check-off labs count as 1/3 of a report/quiz lab.

The lab grade is computed as follows:

$$\text{Lab Grade} = \frac{\sum \text{Report/Quiz Grades} + 0.33 \times \sum \text{Check Lab Grades}}{(\text{Number of Report/Quiz Labs} \times 100) + (33 \times \text{Number of Check Labs})} \times 100\%$$

All lab reports are informal and use a memo format. **All work must be computer generated.** An exception is for hand written calculations and results included in an appendix.

Unless specified differently, lab reports are due on the next day your lab section meets within the first 10 minutes of the lab session. After that, the report is late 1 day. Each working day late costs 10 points off. A weekend counts as one day.

Lab reports must be turned in electronically. See the General section of this policy document for electronic document submission specifications. Failure to follow the electronic submission specifications can result in points taken off for that lab exercise. Note that you can turn in paper copies of an appendix to keep electronic file sizes down. Do not turn in the laboratory exercise instructions as part of your lab report.

Read the lab exercise before arriving at the lab session. **Be sure to complete any required prelab assignment before coming to the lab session. It is part of your grade for that lab and it will be collected or checked at the beginning of the session.**

On-time attendance is expected. If you miss a hands-on lab with an approved absence, you can make it up at a mutually agreed upon time and you can earn full credit for the lab exercise.

If you miss a hands-on lab with an unapproved absence, including check-off

labs, you must make up the lab; but your grade for the lab portion of the course reduces by 12 points. If the hands-on lab missed with unexcused absence normally required a lab report, you do not have to turn one in because it will not be graded. Once you make up the lab exercise, the penalty is implemented by giving you full credit for the particular exercise and subtracting 12 points from the overall lab grade.

If you miss a Demo lab with an unapproved absence, you cannot make up the lab and your grade for the lab portion of the course is reduced by 12 points. The penalty is implemented by giving you full credit for the particular exercise and subtracting 12 points from the overall lab grade.

Failure to make up a missed hands-on lab exercise before the last day of class results in a 0 for the lab portion of the course grade; and therefore you fail the course.

If a required report for a hands-on lab is not turned in, you receive the minimum credit specified by the instructor for having performed that exercise if done correctly.

Failure to take a lab quiz reduces that individual lab's grade by the number of points the quiz is worth.

Failure to turn in a homework-type lab exercise report results in a 0 for that individual grade only.

Note that some lab sessions may be subdivided into two "mini" sessions of 1 hr 25 minutes each to facilitate student access to equipment. In this case half the students will be assigned to first mini session and the other half to the second

Final Exam: The final exam time will be given later in the semester.

Grading:	Quiz Avg.	46%
	Final Exam	20%
	Homework	12%
	Laboratory	20%
	Syllabus Quiz	2%

A = 100-90, B = 89-80, C = 79-70, D = 69-60, F = below 60

General: See the **Course Info – Start Here** module on the VISTA page for logistical information, including a copy of the syllabus and details on using VISTA.

Electronic document submissions must be in ONE Microsoft Word format (.doc or .docx) file and submitted via the VISTA course e-mail (not SPSU e-mail) or the VISTA course Assignments tool.

Late work must be turned in to (a) me in person, or (b) the ECET secretary's office, or (c) the technician lab if after 5 pm. Your deliverable will be dated signed by the person receiving it. **You may also submit late lab reports via VISTA e-mail (not SPSU e-mail).**

Neatness on work turned in for grading is important. Work that is sloppy or contains spelling and grammatical errors will be penalized.

If you appeal a grade, I reserve the right to re-grade the entire test or assignment. **All appeals for re-evaluation of a grade must be made within 5 working days after the assignment was returned to the class. Appeals can be made by e-mail.**

Students are responsible for following the Student Conduct Code given in the Undergraduate catalog, particularly those paragraphs dealing with academic dishonesty.

If you are caught cheating: For the first offense, the maximum penalty is that you will receive a zero for that assignment. For the second, the maximum penalty is that you will fail the course.

Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the counselor working with disabilities at the ATTIC as soon as possible to better ensure that such accommodations are implemented in a timely fashion.

Course Outline

Week	Date (Monday)	Topic	Pages
1	8/13	Introduction, the Internet, layered protocol, Ethernet	Ch. 1, 2, 13
2	8/20	Ethernet, IP addresses and subnetting	Ch. 13, 19, Notes
3	8/27	IP addresses and subnetting, IP functions	Ch. 19, 20
4	9/3	LABOR DAY, IP functions, DHCP, ICMP	Ch. 20, 21
5	9/10	TCP, UDP ports, services, flow control, Quiz 1 (9/14)	Ch. 23
6	9/17	TCP, UDP ports, services, flow control	Ch. 23
7	9/24	Windows XP, Linux	Notes
8	10/1	Linux, DNS	Notes, Ch. 25
9	10/8	DNS, network topology, network devices – routers & switches	Ch. 25, 15
10	10/15	Collision domains, broadcast domains, Quiz 2 (10/19)	Ch. 15, Notes
11	10/22	VLANs, Routing,	Ch. 22
12	10/29	Routing, Cisco routers	Ch. 22, Notes
13	11/5	Frame Relay	Ch. 18.1, 24.9
14	11/12	Wireless LANs	Ch. 14
15	11/19	THANKSGIVING, Quiz 3 (11/19)	Ch. 24
16	11/26	Quality of Service	Ch. 24
17	12/3	Review for Final	

Lab Schedule

Monday Lab Date	Topic
8/27	LAN Media
9/3	No Lab This Week
9/10	Introduction to TCP/IP
9/17	Network Analyzer
9/24	Ethernet
10/1	Telnet and TCP Ports
10/8	Windows Client
10/15	Windows Server
10/22	Introduction to Linux
10/29	Routers
11/5	Routers
11/12	Frame Relay
11/26	Wireless LAN

ECET 4820 Memo

To: Dr. Walter Thain

From:

Partners:

Group Yes or No. Indicate whether you are submitting this report as a Report? group (if permitted) or individual.

Subject: This is the title of the lab exercise

Date: Report date

Introduction:

The first section of your report should be a *brief* summary of what was done and why it was done. To do this, you should read the entire laboratory instruction sheet, including the procedure section. Do not repeat the step-by-step instructions; instead give an overview of the procedure.

Results:

This section documents the results of the exercise and validates the analysis and conclusion sections of your report. Make use of tables when appropriate to organize your presentation of results. Include the results of prelab exercises in this section. Use equation numbers, table numbers, and figure numbers. For example, Eq. 1, Table 1, and Fig. 1 are typical naming conventions when referencing these items in a report. Be sure to include a title for figures and tables. Note that equation numbers are justified on the right margin and are given numbers like (1), (2), etc. Look at how it is done in your text. Note that figure titles appear under the figure and table titles are above the table.

Questions:

This section is reserved for answering the questions included at the end of the laboratory instructions if present. **Copy the complete question from the lab instructions and follow it with the answer.**

Conclusions:

This section pulls together all the information in the report and advises the reader of the important results. Do not recite the procedure. **All lab reports must have a good conclusion.**

Appendix:

Put hand calculations and copies of original data here to support what is stated in your report body.

Note: Your report should be concise, well organized, and use proper grammar and spelling. Always use complete sentences. Paragraphs consist of at least 3 sentences. Use the same type font and size throughout the report. Write your report in the third person so that it reads like a newspaper story. That is, do not use I, we, us, etc. Use either Times, Arial, or Courier fonts. Use 10 pt or 12 pt size only and do not change from one to the other.