

SYLLABUS

Spring 2011

CSC 315A Computer Networks and Data Communications

4 cr.

Prerequisite(s): CSC 260 with grade of C+ or higher.

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Hours: TR(2-5:00), WF (12:00-1:00)

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Section	Time	Room	Final Exam
01	T & R 8:00-9:15am	MH 301	Wednesday, 5/11, 8:00am-10:00am MH 301
L21	T & R 9:30-10:45am	MH 209	

Catalog description:

This course provides an introduction to the basic principles of data communications and computer networks. Modulation techniques, multiplexing, transmission media, error control techniques, message formatting, switching and packet-switching techniques, various communication protocols, and networking and internetworking techniques are discussed. Three lecture hours and three hours of scheduled laboratory per week, plus programming work outside of class.

Prerequisite: CSC 260 with grade of C+ or higher.

Goals:

The purposes of this course are to:

- CG01: provide an introduction to the basic requirements of and the techniques used in data communications networks;
- CG02: develop students' understanding of the basic principles of the technology and architecture of data and computer communications.

Objectives:

Upon successful completion of this course the student will have:

- CO01: mastered terminology and basic concepts of general characteristics of LAN and WAN systems;
- CO02: established a unified and fundamental view of the broad field of data communications networks;
- CO03: gained hands-on experience in developing software for a client-server environment;
- CO04: chosen a topic in an area of data communications that represents current and/or future trends, read and synopsized three journal/magazine articles relating to the topic, and given a formal presentation of a completed term paper.

Course Topics:

A detailed topics list and a general course bibliography can be found on the Computer Science Department website at http://cs.salemstate.edu/dept/uploads/2_CSC315AwithBoK1.pdf.

Text:

(Required) **Computer Networking – A top-down approach featuring the Internet**, 5th Edition, by James F. Kurose, Kriyh W. Ross, Addison Wesley, 2010, ISBN-13: 978-0-13-607967-5.

Software:

- Wireshark (available at: <http://www.wireshark.org/download.html>).
- Jave IDE.
- (As the class proceeds, we may need to use other software packages. These requirements will be announced in the class.)

Hardware:

- Layer 2 (datalink) switch (e.g., JFS524 24-port 10/100 Mbps Ethernet Switch from Dell)
 - Cisco IP router.
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Cell phones:

Turn the ringer off, or, better yet, *turn the phone off*.

Class Attendance:

Class policy is that of the Registrar's office - see the University catalog for details. Lecture will start promptly at the scheduled time, so please make a serious effort to not be late; if you *have* to be late, please be discrete when entering the classroom. While class attendance does not *directly* affect your final grade, some of the material covered in class is not found (in the same form) in the text, so class attendance and notes are very important. Note that you are at all times responsible for materials and assignments discussed in class: if you miss a class, try to get lecture notes from a classmate and review them **before** the next lecture, and **check your email or visit course homepage** (http://cs.salemstate.edu/~b_yi/2011Spring/CSC315A/index.html) **for any materials that may have been distributed**. Each student is responsible for completing all course requirements and for keeping up with all that goes on in the course (whether or not the student is present).

Assignments (Labs / Homework/Programming Projects/Other Exercises):

*Each assignment will have an assigned due date and time. Assignments submitted late will be penalized (see **Submission Deadlines / Late Penalties** below).*

Each assignment may have different full scores, depending on the difficulty and the amount of the work of the exercises. There will be one or two extra assignments given in the semester and these extra assignments will be used as make-up assignments. Any assignment may be used as the extras. Please refer to Final Grade below for the grading weights of the assignments.

Assignments are the most important part of the course work; practice with and fulfillment of the assignments will greatly help the exams.

Scheduled Lab Attendance:

Attendance during lab time is **STRONGLY recommended**. The lab exercises are designed help reinforce the understanding of the topics in the course and gaining hands-on experiences in computer networking. These abs will also be used to review or present software tools, to discuss and investigate programming implementation and/or lab exercise details that time may not permit to be fully explored during the scheduled lecture period, for design and implementation drills, for occasional short lab (programming) exercises, to assist with design and debugging problems that arise in longer lab / project exercises, and to check/examine/grade the exercises and homework.

Final Grade:

Final grade will be determined using the following grading weights:

homework	25%
labs	20%
programming projects	20%
midterm examination	15%
final examination	20%

Attendance is not used to calculate the final grade: however, note that you are at all times responsible for assignments and materials presented in class.

The following table shows how the course work is assessed against the course objectives:

	Homework Assignments	Programming Projects	Lab Exercises	Exams
CO01	✓	✓	✓	✓
CO02	✓	✓	✓	✓
CO03			✓	✓
CO04	✓			

Exams:

There will be two exams, a midterm (usually in week 8) examination and a *comprehensive* final examination. Please refer to Final Grade above for the grading weights of the exams.

Missed Tests:

Tests (exams) may not be made up except for *documented emergency* situations. If a test must be made up, arrangements must be made with the instructor to take the test before it is discussed in class (usually within a week of the test being administered).

Student-Teacher Communication:

Learning how to design and implement data structures with a programming language is very much a **hands-on, experiential process** - the only way to be sure that you understand the material is to apply it by designing and writing programs.

If you have any questions regarding course material, and *in particular if you are having problems with a programming project*, the most effective way to get assistance is to **discuss with the instructor (either in the class or outside the classroom)**. If you want to send the instructor an email about the problem, use the Subject line to succinctly state the problem/question, use the body of the email to describe in as much detail as possible what you need assistance with, and (if the problem relates to a Java project) attach a zip archive containing the *entire project* to the email.

Submission Deadlines / Late Penalties:

- **Any assignments submitted after 5/4/2011 will receive ZERO.**
- **All other** late submissions will be penalized according to the following table.
- (If you cannot submit your work because of unexpected situations, please contact the instructor ASAP for extended submission time—usually upon documented notice.)

Amount of Time Being Late	Deduction
(1 second, 2 days]	10%
(2 days, 1 week]	30%
(1 week, 3 weeks]	50%
(3 weeks, ∞)	100%
Any assignments submitted after 5/4/2011	100%

Study Groups:

While I strongly encourage study groups, for non-group assignments I require that each student hand in his/her answers in his/her own words – **for the programming projects and/or lab reports, if two answers come out exactly the same or highly similar, neither will receive credit and/or further actions will be taken** (such as reporting to the department and/or university). Given the nature of most of the projects, homework questions and writing assignments, it will be almost impossible for two people to come up with highly similar answers UNLESS they copy.

Academic Integrity:

Academic Integrity Policy and Regulations can be found in the University Catalog and on the University's website ([http://www.salemstate.edu/content_images/academic_integrity_regulations_2007\(1\).pdf](http://www.salemstate.edu/content_images/academic_integrity_regulations_2007(1).pdf)). The formal regulations are extensive and detailed - familiarize yourself with them if you have not previously done so. A concise summary of and direct quote from the regulations: "Materials (written or otherwise) submitted to fulfill academic requirements must represent a student's own efforts". *Submission of other's work as one's own without proper attribution is in direct violation of the University's Policy* and will be dealt with according to the University's formal Procedures.

"Salem State College is committed to providing equal access to the educational experience for all students in compliance with Section 504 of The Rehabilitation Act and The Americans with Disabilities Act and to providing all reasonable academic accommodations, aids and adjustments. Any student who has a documented disability requiring an accommodation, aid or adjustment should speak with the instructor immediately. Students with Disabilities who have not previously done so should provide documentation to and schedule an appointment with the Office for Students with Disabilities and obtain appropriate services."

In the event of a university declared critical emergency, Salem State University reserves the right to alter this course plan. Students should refer to <http://www.salemstate.edu> for further information and updates. The course attendance policy stays in effect until there is a university declared critical emergency. In the event of an emergency, please refer to the alternative educational plans for this course located at http://cs.salemstate.edu/~b_yi/2011Spring/CSC315A/index.html. Students should review the plans and gather all required materials before an emergency is declared.

Please remember that if, for any reason, you decide to drop this course, you **MUST** do so officially through the Registrar's office. The last day to withdraw from a course this semester is **Friday, April 15th, 2011**.

Note: This syllabus represents the intended structure of the course for the semester. If changes are necessary, students will be notified in writing and via all regular class communication mechanisms (class discussion, emails, and/or the course homepage through the instructor's website at http://cs.salemstate.edu/~b_yi/).