

INSY 3303-001 Computer Networks and Distributed Computing
Spring semester, 2016 University of Texas at Arlington

Instructor: Philip L. Bond, PhD

Office Number: COBA 506

Office Telephone Number: 817-272-3707

Email Address: philip.bond@mavs.uta.edu

Office Hours: Before and after class, or by appointment

Section Information: INSY 3303-002

Time and Place of Class Meetings: MoWe 5:30pm – 6:50pm, COBA Room 138

Description of Course Content:

This course is designed to familiarize students with the concepts, working principles, and management issues related to data communication and computer networks. The course utilizes a networking lab to allow students to do the hands-on projects. This is an introductory course and is targeted at undergraduate students who have little or no background in the subject. At the end of the semester, students will be expected to master the terminology and network principles concepts.

Student Learning Outcomes:

Students will get familiar with working principles and common protocols that computer networks were built on.

Students will be able to describe technologies and services that can be used to build local area networks, wireless networks and wide area networks.

Students will be able to describe common network security issues and their mitigation approaches.

Required Textbooks and Other Course Materials:

Fitzgerald, J., Dennis, A., and Durcikova, A. – “Business Data Communications & Networking” (11th Edition), Wiley Publishing

Descriptions of major assignments and examinations:

1. There are weekly quizzes or exams. The quizzes are open notes, open textbooks. The exams are closed books, closed notes. Quizzes will be expected in Week 01, then an exam covering the material from the previous quiz and new material covered after the Week 01 quiz in Week 02. This pattern will be applied to the semester, based on coverage of material in class. ***If you miss a quiz or an exam, that grade will be substituted by the grade from your Final Exam.*** No makeup exam will be given under any circumstance. If you have any question concerning a grade you receive in an exam, it is your responsibility to inform me within one week of the exam being returned to you. Grades will not be discussed after that time.
2. There will be a number of hands-on lab sessions working in the computer lab or at home. You need form a team of two for each lab. Some may require you to finish in class time, and some will be assigned as homework. ***No assignments must be accepted by the Instructor***

when turned in after the deadline. For each assignment, for each group, you need turn in a report which shows the completion of the key steps by providing screen copies as well as the results and answers for the questions in the assignment in one Word document. The Riverbed simulator labs (Labs 04 and 05) require a Windows computer to accomplish. The Networking lab in COBA Room 514 will be made available for these hands-on lab assignments.

3. There will be a comprehensive Final Exam during the Final Exam scheduled time for this course.

Attendance:

Attendance is mandatory. If you must miss class for some reason, you are responsible for the material you missed. Any class attendance and lateness policies introduced in this class include by reference all provisions for grade adjustment or drop policies included in the applicable Graduate or Undergraduate Catalog in effect at the start of the semester.

Other Requirements:

Prerequisites: INSY 2303. You are also expected to know how to use MS-Office and be able to solve problems involving basic algebra and statistics. It is assumed that you are familiar with the basics of computer operation such as data representation and issues concerning the management of information systems.

Expectations for Out-of-Class Study: Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend additional time per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

Grading:

Quizzes	15%
Exams	35%
Hands-on lab exercises and assignments	20%
Comprehensive Final Exam	30%
Total	100%

University policy will be followed to handle any grade grievance. You should first contact the instructor and discuss the matter by email or in person and provide any supporting material for your grievance. If the grievance is not satisfactorily resolved, you can follow the University Guidelines for further action. Please refer to the University Catalog for details.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be

required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA)*, *The Americans with Disabilities Amendments Act (ADAAA)*, and *Section 504 of the Rehabilitation Act*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the **Office for Students with Disabilities (OSD)**. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364.
Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671.

Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Title IX: *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos. For information regarding Title IX, visit www.uta.edu/titleIX.*

Academic Integrity: Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2,

suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, following the exit signs. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

Tentative Course Schedule.

*The Instructor reserves the right to alter this schedule as circumstances warrant.

Session	Date	Topic	Readings
1	20-Jan	Course Overview	Chapter 1
2	25-Jan	Application Layer	Chapter 2
3	27-Jan	Application Layer	Chapter 2
4	01-Feb	Lab Session 1: Making Ethernet Cable	
5	03-Feb	Physical Layer	Chapter 3
6	08-Feb	Physical Layer	Chapter 3
7	10-Feb	Data-link Layer	Chapter 4
8	15-Feb	Data-link Layer	Chapter 4
9	17-Feb	Network and Transport Layer	Chapter 5
10	22-Feb	Network and Transport Layer	Chapter 5
11	24-Feb	Lab Session 2: TCP/IP Utilities	
12	29-Feb	Network and Transport Layer	Chapter 5
13	02-Mar	Lab Session 3: Wireshark	
14	07-Mar	<u>Review of Chapters 01 - 05</u>	
15	09-Mar	Wired and Wireless Local Area Networks	Chapter 6
<i>Spring Break 14-18 March</i>			
16	21-Mar	Lab Session 4: Riverbed Lab 1	
17	23-Mar	Wired and Wireless Local Area Networks	Chapter 6
18	28-Mar	Backbone Networks	Chapter 7
19	30-Mar	Wide Area Networks	Chapter 8
20	04-Apr	Lab Session 5: Riverbed Lab 02	
21	06-Apr	The Internet	Chapter 9
22	11-Apr	Network Security	Chapter 10
23	13-Apr	Network Security	Chapter 10
24	18-Apr	Lab Session 6: Network Security	
25	20-Apr	Network Design	Chapter 11
26	25-Apr	Network Management	Chapter 12
27	27-Apr	<i>Review</i>	
28	02-May	<i>Review</i>	
29	04-May	<i>Review</i>	
30	09-May	Final Exam, 5:30-8:00	

- April 01, 2016: Last day to drop classes

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number is 817-272-3381