COSC 4478 – Computer Networks

Instructor: Dr. Mircea Agapie  
Office: SCIENCE 213  
Phone: (254) 968-0792

E-mail: agapie@tarleton.edu  
Office hours: Mon+Wed 12-1, Fri 12:2

Website: www.agapie.net

Class: SCIENCE 206, Tue Thu 10:50 – 12:05  
Lab: SCIENCE 206 Thu 2:40-6:30 PM.

Textbook: *Computer Networks* by Tanenbaum, 5th ed. (required)

Keeping in touch: the following channels of communication will be used. Please do your best to check them often (morning before class is a good idea):

- Email. I am using your “preferred” email address from DuckTrax. If you need to change it, email me with the new address. Make sure you clean your mailbox regularly – if it’s full, the messages will bounce back.
- Announcements posted on the course website www.agapie.net

Individual work and quizzes (not graded): During most classes, short quizzes will be assigned to solve on the spot. At the end of class, the instructor will provide a list of easy problems which are recommended to solve before the next class. They are intended as a self-check for the student, to make sure the material covered was understood. Solve both quizzes and individual work in your notebook (see below).

Homework: One set of problems will be assigned for each chapter, due in 1 week.

- Due at the beginning of class. Late submissions cannot be credited! (Exceptions allowed on a case-by-case basis, if you have notified the instructor before the due date.)
- Handwritten or electronic format, but give the instructor a hard-copy. Although the Solutions Manual for the text is widely (and illegally) posted on the Internet, its use is strictly prohibited in our class. Any transgression of this rule will be treated as cheating

Lab reports: One per lab, due at the end of each lab.

Exams: Mid-term on Feb.27, and final on Thursday, May 5, 3-5:30 PM (according to the University calendar), both in SCIEN 206.

- There will be a review session before each exam.
- Exams are open-book and open-notes, but closed-friends and closed-Internet.

3 term papers: Due to the dynamic nature of computer networking technologies and to the huge volume of information, the ability to do individual research is vital to anyone working in this field. Also, this course is designated as Writing Intensive, and, as such, 30% of the grade is based on the 3 term papers (10% each). A student cannot pass the class unless (s)he has separately passed the written part, which means at least 18% out of the 30% mentioned.

Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Lab reports</td>
<td>15%</td>
</tr>
<tr>
<td>Three term papers</td>
<td>10% each</td>
</tr>
<tr>
<td>Mid-term</td>
<td>20%</td>
</tr>
<tr>
<td>Final</td>
<td>20%</td>
</tr>
</tbody>
</table>

Intervals: 90-100 = A, 80-90 = B, 70-80 = C, 60-70 = D, below 60 = F.

Up to 5% of the final score can be gained as extra-credit for answering questions in class or lab.

Notebook (not graded): You will need a 100-page (or larger) notebook for this class. It will contain: class notes, lab notes, solutions to individual work problems, solutions to quizzes, memory sheets, networking acronyms, research notes for the term paper etc.

- Although I provide class notes on my website (at the end of each chapter), these are not meant as a substitute for individual note-taking!

---

1 If you, however, decide to take the risk, be advised that the manual is full of mistakes, which makes catching the cheaters really easy 😊
Useful dates: January 27: Last day to drop 1st 8 week classes with no record  
March 25: Last day to drop a course with a "Q" or withdraw with a "W"  
No classes: Jan.18 (MLK Day), March 7-11 (Spring Break), March 25 (Easter Friday)

Intended Student Learning Outcomes
At the conclusion of the course the successful student will:

- Be familiar with a substantial number of concepts and acronyms from the field of computer and telecommunications networks, and also with the recent history of this field.
- Have an understanding of the modular, layered architecture of networks, and the main functions implemented on each layer.
- Have detailed knowledge of a few widely-used protocols on L2, L3, L4 and Application Layer: Ethernet (including its wireless variations), IP, TCP, DNS, email and WWW. Have a more general knowledge of a number of other protocols, such that, if encountering these in real-life, the student will easily learn the detailed knowledge that is necessary.
- Have a practical knowledge of basic networking architecture: cabling, hubs, switches and routers.
- Be able to use mathematical tools (Fourier series, Probability Theory, Graph Theory, Boolean Logic, etc.) in order to analyze and design computer networks.
- Be able to program client-server applications.
- Have a practical knowledge of conducting technical research in the field of computer networks, and be able to organize and present the results of such research to peers and to a lay audience.

Academic Conduct: Students guilty of academic dishonesty, cheating, or plagiarism in academic work shall be subject to disciplinary action. The instructor may initiate disciplinary action in any case of academic misconduct. For homework, term paper and lab work it is allowed (actually recommended) for students to brainstorm and develop solutions together, however, the writing and coding has to be done individually.

Absence Policy: Attendance will not be recorded for this course. The student is responsible for any material covered in class and in the lab, and for obtaining assignments and other materials for classes from which they are absent.

Make-up Policy: The instructor has the responsibility and authority to determine if work can be made-up because of absences. Students may request to make-up work for valid and verifiable reasons such as: illness, death in the immediate family, legal proceedings, or participation in sponsored University activities. Please let the instructor know in advance of any absence/make-up issues. Absolutely no make-up requests after the due date!

Students with disabilities: It is the policy of Tarleton State University to comply with the Americans with Disabilities Act and other applicable laws. If you are a student with a disability seeking accommodations for this course, please contact the Center for Access and Academic Testing at 254.968.9400 or caat@tarleton.edu. The office is located in Math 201. More information can be found at www.tarleton.edu/caat, in the University Catalog, or at www.ada.gov.

Effort expected: The average amount of work recommended for college classes is 45 hours of out-of-class work (during the entire semester) per credit hour. Our class has 4 credit hours, and the semester is 15 weeks long, which gives 12 hours of work per week. After subtracting the 3 hours of lab, we are left with 9 hours of out-of-class work per week for this course. Please reserve these 9 hours on your weekly schedule.  
What you should do during this time:
- Study the material covered from the textbook, along with the notes taken in class.
- Solve the individual work problems assigned for the next class.
- Solve homework problems.
- Go over quiz problems.
- Practice programming (e.g. in Python).