Class Time and Venue:

TR 11:00 am to 12:15 pm, in 103 Emerson Hall (Electrical Engineering)

Instructor

Dr. Sahra Sedigh Sarvestani
Email: sedighs@mst.edu (best way of reaching me)
Office: 135 Emerson Hall
Phone: (573) 341-7505
Administrative assistant: Ms. Carol Lay, (573) 341-4509, layc@mst.edu, 143 Emerson Hall

Office hours: TBD.
Do not hesitate to ask for help outside of office hours, but do check to confirm my availability.

Course Objectives
The objective of this course is to introduce you to the design of computer networks, with emphasis on network architecture, protocols and standards, performance considerations, and network technologies.

By the end of the course, you should be able to:
- Describe an overview of communication networks, explaining the general principles governing the transport, network, medium access control, data link, and physical layers.
- Describe how these layers operate and interact, and how the major functions of each layer are affected by network speed and user requirements.
- Investigate the limitations of current networks such as the Internet, Ethernet, ATM, and wireless LANs.
- Evaluate the performance of a network, and suggest improvements employing new technologies.

Prerequisite Courses
1. Stat 3317 or equivalent; or as determined by the instructor, competence in probability theory.
2. CpE 3150 or equivalent; or as determined by the instructor, competence in computer hardware.

Prerequisites by Topic:
1. Familiarity with elementary probability theory
2. Familiarity with data structures and algorithms
3. Mastery of the fundamentals of computer organization
4. Familiarity with processor communications and I/O
5. Familiarity with computer programming
Required Text


Available for purchase as an ebook at:


Suggested Reference


Course Web Site

PowerPoint slides from each class, course handout materials and homework assignments will be available on the Missouri S&T Blackboard system at [http://blackboard.mst.edu](http://blackboard.mst.edu).

Tentative Course Schedule

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration/Date</th>
<th>Reading Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1 week</td>
<td>Chapter 1</td>
</tr>
<tr>
<td>Physical Layer</td>
<td>3 weeks</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>Midterm Exam 1</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Data Link Layer</td>
<td>2 weeks</td>
<td>Chapter 3 (all except 3.5)</td>
</tr>
<tr>
<td>Medium Access Control Sublayer</td>
<td>3.5 weeks</td>
<td>Chapter 4 (all except 4.6)</td>
</tr>
<tr>
<td>Midterm Exam 2</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Network Layer</td>
<td>2.5 weeks</td>
<td>Chapter 5 (5.1-5.5)</td>
</tr>
<tr>
<td>Internet Addressing and Transport Protocols</td>
<td>1.5 weeks</td>
<td>Section 5.6, Chapter 6</td>
</tr>
<tr>
<td>Final Exam</td>
<td>As announced by Registrar</td>
<td>Comprehensive</td>
</tr>
</tbody>
</table>

Class Attendance

On-campus students are expected to attend all classes. If you must miss a class, you are responsible for procuring any information, handouts, or announcements that you missed. Attendance will be recorded for randomly selected class sessions.

Classroom Courtesy

This class has a distance education component, which implies that it will be webcast and recorded for distance students. It is even more important than usual to avoid any actions that could be disruptive to your classmates, whether on- or off-campus.

While in class, laptops, tablets, phones, and other portable electronic devices should be used only for access to and annotation of course slides or taking notes. You are welcome to leave the class if you urgently need to use your devices for other purposes.
Feedback

Your comments are appreciated and welcome throughout the semester. Your feedback is critical to my success as an instructor.

In addition to the end-of-semester evaluations required by the department, I will periodically solicit your feedback, which can be provided anonymously.

The earlier you give me feedback, the more time I have to implement changes that could improve the class.

Communication

Email is the preferred mode of communication for this class. I expect you to check your email at least once a day. I also expect you to monitor Blackboard regularly for announcements or other course material, in particular lecture notes and assignments.

Homework

- Lecture notes for each class will be posted on Blackboard prior to presentation in class. You are expected to download these notes and bring them to class on the day the lecture is to be presented.
- Homework problems will be posted on Blackboard. You will have approximately six assignments, not including lab exercises.
- Assignments are due at the beginning of class. On-campus students should submit a hard copy, in class. Off-campus students should submit through Blackboard.
- Late homework will receive 50% of the possible score if submitted within 24 hours of the time it is due. Late assignments will not be accepted after 24 hours of the original deadline.
- While you are expected to complete all homework assignments, only a subset of the problems or assignments may be graded.

You may work together to solve the homework problems, but each student should prepare the final submission individually. Copying from anyone else's solution is detrimental to your integrity and will deprive you of the opportunity to learn the material and to assess your knowledge. If submissions from two students are found to be effectively identical, both students will receive zero as the grade for the quiz, assignment, or exam in question. If you cannot explain your answer to a particular question at a later date, no credit will be given, even if the solution originally submitted was correct.

Quizzes

Unannounced quizzes will be given on a regular basis. On-campus students can take the quizzes only in class. Off-campus students should submit each quiz by Blackboard within 24 hours of the class in which it is given. A score of zero will be given for any missed quizzes. No makeup quizzes will be given.

Examinations

The class will have three exams, the third of which is a comprehensive final. Exams will cover material from the lectures, text, and homework, with slight emphasis on homework.

Off-campus students should contact me to schedule their exam. Barring extenuating circumstances, they should take the exam within 24 hours after it is given in class.

Unless there is an excuse deemed acceptable by me, failure to appear at an exam will result in a grade of zero for on-campus students. Makeup exams will be scheduled on a case-by-case basis, based on evidence of scheduling conflicts or other extenuating circumstances.
**Special Accommodations for Students with Documented Disabilities**
If you have a documented disability and anticipate needing accommodations in this course, you are strongly encouraged to meet with me early in the semester. You will need to request that the Disability Support Services staff send a letter to me verifying your disability and specifying the accommodation you will need. Disability Support Services is located in 204 Norwood Hall. Their phone number is 341-4211 and their email is dss@mst.edu.

Please make your requests for special accommodations at least two weeks in advance of the date on which they are needed.

**Grading**
Class participation (attendance, interaction, improvement): 2%
Quizzes: 15%
Homework assignments: 15%
Midterm exam 1: 20%
Midterm exam 2: 20%
Final exam: 28%

**Partial Credit and Regrades**
Homework or exam problems are rarely graded as all-or-none. Emphasis is placed first upon the understanding of the concept, followed by proper application of the concepts, and lastly on the correct answer. **Show your work.** You will not be severely penalized for minor mistakes, but answers without explanations may not be given full credit.

If you feel you deserve more credit on a problem than you were given, you may submit a written (preferably email) request for additional credit, clearly stating why you believe you deserve additional credit. **Regrade requests will not be accepted until 24 hours after an assignment or exam is returned, and should be in the form of a memo or letter used when communicating between professionals on the job. Requests should be submitted within five days of receiving the assignment or exam. No such requests will be honored after the deadline has passed.**

**Academic Honesty**
We expect every member of the Missouri S&T community to practice honorable, respectful, and ethical behavior inside and outside of the classroom. I strongly encourage you to read the Honor Code developed and endorsed by the Missouri S&T Student Council, which is available at: [http://stuco.mst.edu/about/honor.shtml](http://stuco.mst.edu/about/honor.shtml).

Any action that might unfairly improve a student’s score on homework, quizzes, or examinations will be considered cheating, and will not be tolerated. A few examples of are:
- Submitting homework that is not your own work.
- Use of solution manuals. This one is especially egregious.
- Sharing results or notes during quizzes or exams.
- Bringing notes, in hard copy or electronic form, to an exam where they are not allowed. This includes improper use of a programmable calculator.
- Requesting a regrade on an exam or homework problem that has been altered after grading.
Page 30 of the Student Academic Regulations handbook describes the student standard of conduct relative to the University of Missouri System's Collected Rules and Regulations section 200.010, and offers descriptions of academic dishonesty including cheating, plagiarism or sabotage (http://registrar.mst.edu/academicregs/index.html). Other informational resources for students regarding ethics and integrity can be found online at http://ugs.mst.edu/academicintegrity/studentresources-ai.

If you are unsure of whether a certain act is considered dishonest, please ask me.

Cheating on assignments or exams can result in a zero score for the assignment or exam, or a reduced or failing grade for the course, at my discretion and in conformance with university regulations. Instances of cheating will be reported to university administrative officials for further action and possible suspension or expulsion from the university.

The Burns & McDonnell Student Success Center
The Student Success Center is a centralized location designed for students to visit and feel comfortable about utilizing the campus resources available. The Student Success Center was developed as a campus wide initiative to foster a sense of responsibility and self-directedness to all S&T students by providing peer mentors, caring staff, and approachable faculty and administrators who are student centered and supportive of student success. Visit the B&MSSC at 198 Toomey Hall; 573-341-7596; success@mst.edu; facebook: www.facebook.com/SandTssc; web: http://studentsuccess.mst.edu/.

Title IX Information
Missouri University of Science and Technology is committed to the safety and well-being of all members of its community. US Federal Law Title IX states that no member of the university community shall, on the basis of sex, be excluded from participation in, or be denied benefits of, or be subjected to discrimination under any education program or activity. Furthermore, in accordance with Title IX guidelines from the US Office of Civil Rights, Missouri S&T requires that all faculty and staff members report, to the Missouri S&T Title IX Coordinator, any notice of sexual harassment, abuse, and/or violence (including personal relational abuse, relational/domestic violence, and stalking) disclosed through communication including but not limited to direct conversation, email, social media, classroom papers and homework exercises.

Missouri S&T’s Title IX Coordinator is Vice Chancellor Shenethia Manuel. Contact her directly (manuels@mst.edu; (573) 341-4920; 113 Centennial Hall) to report Title IX violations. To learn more about Title IX resources and reporting options (confidential and non-confidential) available to Missouri S&T students, staff, and faculty, please visit http://titleix.mst.edu.

Emergency Exits
Egress maps for all areas of instruction on campus are available on the web at http://designconstruction.mst.edu/floorplan/. I encourage you to review this site and be aware of the emergency exit signs near the classroom.

ANY INFORMATION PROVIDED BY THE INSTRUCTOR ON LATER DATES, IN WRITTEN OR ORAL FORM, WILL SUPERSEDE THIS DOCUMENT.