Objective: to understand the fundamentals and techniques of communication networks.

Prerequisite: ELEE 3435 / CMPE 3437 or junior standing


Topics

Week 1: Introduction and overview
Week 2-3: Analog and digital data transmission
Week 4: Transmission impairments and channel capacity
Week 5-6: Guided transmission media and wireless transmission
Week 7: Wireless propagation and line of sight transmission
Week 8-10: Signal encoding techniques
Week 11: Asynchronous and synchronous transmission
Week 12-13: Error detection and correction
Week 14-15: Flow control and error control
Week 16: Multiplexing

Grading:

Homework 10%  Project 10%  Midterm Exam 40%  Final Exam 40%

1. Coursework will be graded on both final results/conclusions and their derivation processes.
2. If copying is found among students’ turned-in coursework, all involved parties will get zero credit.
3. Any re-grading request must be submitted within one week.

Assignment:

1. Late submission will not be accepted except arranged in advance.
2. Homework is due right before class Wednesday the next week following the assignment, if not notified otherwise.
3. Homework should be handwritten, and presented in a clear, readable form. For clarity of presentation, the homework should be written on only one side and on a standard size paper. The homework pages must be stapled in the upper left-hand corner.
4. No make-up for any missed exam or homework will be permitted unless arranged in advance.
Attendance:
Attendance is required. If a student is absent for three or more classes without the instructor’s approval, the instructor may drop the student from the course. If a student misses the quiz at the beginning of a class, the student is counted as being absent for the class. For potential extra attendance credits, a student is counted as being present only if the student is present when the class roll is taken.

Email communication:
Students must use their official UTRGV email accounts for any correspondence with the instructor. Otherwise, the email may not be replied.

Outcomes:
At the end of the semester, it is expected that students should be able to understand how the basic techniques work together in communication networks and how information is transferred in communication networks.

ELEE Program Outcomes:
(E1) knowledge of at least one specialization area within electrical engineering that goes beyond the basic skills expected of all electrical engineering students.

CMPE Program Outcomes:
(B) an understanding of the principles of computer programming, software engineering, algorithms, data structures, computer organization and architecture, operating systems, and computer networking;
(E) a depth and breadth of knowledge that goes beyond the basic skills expected of all computer engineering students with further specialization in either the software track or the hardware track;

STUDENTS WITH DISABILITIES:
If you have a documented disability (physical, psychological, learning, or other disability which affects your academic performance) and would like to receive academic accommodations, please inform your instructor and contact Student Accessibility Services to schedule an appointment to initiate services. It is recommended that you schedule an appointment with Student Accessibility Services before classes start. However, accommodations can be provided at any time. **Brownsville Campus:** Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at
accessibility@utrgv.edu. **Edinburg Campus:** Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at accessibility@utrgv.edu.

**MANDATORY COURSE EVALUATION PERIOD:**
Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades and may receive an amount of extra credits determined by the instructor.

**SCHOLASTIC INTEGRITY:**
As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism, and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

**SEXUAL HARASSMENT, DISCRIMINATION, and VIOLENCE:**
In accordance with UT System regulations, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect in an environment free from sexual misconduct and discrimination.

**COURSE DROPS:**
According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes
may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.