CMPE/ELEE 4390  Communication Networks  Spring 2019
Class  9:25 am - 10:40 am  MW  Interdisc Engin & Acad Bldg 1.208

Instructor: Dr. Jun Peng  Office: EENGR 3.232
Office hours: W 11:00am-12:00pm, 3:00pm-4:00pm  Tel: (956) 665-2688
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Objective: to understand the fundamentals and techniques of communication networks.

Prerequisite: ELEE 3435 / CMPE 3437 or junior standing


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

Grading:

  Homework 5%,  Project 10%,  Attendance and In-class Performance 15%,
  Midterm Exam 35%,  Final Exam 35%

  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 Thursday 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 and In-Class Performance:**

Attendance is required. A student is counted as being present for a class if the student is present during the whole class time. A student cannot use personal electronic devices, talk, or do anything that introduces interference in a class.

**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;

**UTRGV POLICIES**

**STUDENTS WITH DISABILITIES:**

Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact Student Accessibility Services (SAS) as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time,
but are not retroactive. Students who suffer a broken bone, severe injury or undergo surgery during the semester are eligible for temporary services.

**Pregnancy, Pregnancy-related, and Parenting Accommodations**
Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably immediate postpartum period) are encouraged to contact Student Accessibility Services for additional information and to request accommodations.

**Student Accessibility Services:**
**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 ability@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 ability@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.

**ATTENDANCE:**
Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

**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 (including self-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 that is 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.

**STUDENT SERVICES:**
Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Students Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Learning Center, Writing Center, Advising Center and Career Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment.

Locations are:
- Learning center: BSTUN 2.10 (Brownsville) or ELCTR 100 (Edinburg)
- Writing center: BLIBR 3.206 (Brownsville) or ESTAC 3.119 (Edinburg)
- Advising center: BMAIN 1.400 (Brownsville) or ESWKH 101 (Edinburg)
- Career center: BCRTZ 129 (Brownsville) or ESSBL 2.101 (Edinburg)