CSCE 3020-001: COMMUNICATION SYSTEMS
Spring 2020

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- Include CSCE 3020.001 in subject line
- Always use your official UNT email address

Class Location/Time: NTDP B140, MoWe 5:30 – 6:50 PM

Lab Location/Time: NTDP F242, Fr 12:30 PM – 1:20 PM

NTDP F242, Fr 1:30 PM – 2:20 PM

Office Hours: Mo 12:00 PM-1:00 PM, 3:00 PM-4:00 PM, We 3:00 PM-4:00 PM or by appointment

Teaching Assistant: Rachakonda, Laavanya

Email: rachakondalaavanya@my.unt.edu

Office Hours: TuTh 9:00 AM-11:30 AM

COURSE DESCRIPTION

The objective of this course is to introduce the concepts of transmission of information via communication channels. Topics such sampling and signal processing, and amplitude and angle modulation, frequency response analysis and pole-zero plots and filter design will be discussed. MATLAB software will be used as a teaching tool.

COURSE OUTCOMES

1. Analyze the frequency response of communication systems
2. Represent continuous-time signals by samples
3. Determine the energy and power spectral density of signals
4. Plot pole-zero diagrams
5. Design analog and digital filters.

ABET PROGRAM OUTCOMES

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

RECOMMENDED TEXTBOOK

Signals and Systems: Analysis Using Transform Methods & MATLAB, 2nd edition,

M.J. Roberts,

McGraw-Hill

ISBN-13: 9780073380681

PRE-REQUISITES: CSCE 3010; EENG 3510; and MATH 1780 or MATH 3680

TOPICS TO BE COVERED

1. Sampling and Signal Processing
2. Frequency Response Analysis
3. Communication Systems Analysis
4. Laplace System Analysis
5. z-Transform System Analysis
6. Filter Analysis and Design

SCHEDULE AND GRADING

Attendance/Class Participation: 5%

Homework and Assignments: 10%

Quizzes: 10%

Midterm Exam: 25%

Final Exam: 30%

Programming Assignments: 10%

Recitations/Laboratory Activities: 10%

Notes:

ATTENDANCE POLICY

Class attendance is regarded as an obligation as well as a privilege. All students are therefore expected to attend each class meeting. *A student who misses class is still responsible to find out what was discussed and to learn the material that was covered and obtain the homework that was assigned on the missed day.* The instructor is not responsible for re-teaching material missed by a student who did not attend class. Therefore, each student is accountable for and will be evaluated on *all* material covered in this course, regardless of attendance.

Attendance/Participation grades will be based on attendance, contribution to in-class discussions, and assessment of any in-class work. Disruptive behavior and unexcused absences deemed excessive will result in a lower attendance/participation grade.

HOMEWORK

Homework will be assigned based on material from the lectures and textbook. These assignments are meant for you to become familiar with the course material and this practice will aid you in mastering the concepts on the exams.

PROGRAMMING ASSIGNMENTS

Programming assignments will be assigned throughout the semester, integrated with the homework assignment. The programming assignments need to be completed using the MATLAB software.

RECITATIONS

Recitations will include laboratory activities. Presence in the recitation hours is required to receive credit for the work done. The lab assignment will have a due date.

LATE SUBMISSION POLICY

The same late submission policies apply to both homework, programming assignments and laboratory activities. If you miss the submission deadline, you will be penalized 25% of the grade for every day you are late. For example, if the deadline is on Friday 11.59 PM and you submit on Saturday, you will lose 25% points, if you submit on Sunday you lose 50% points, and so on.

QUIZZES

Quizzes will be posted on Canvas every Thursday throughout the semester. The quiz will be available until Friday. The objective of the quizzes to test students on theoretical concepts discussed in the class as well as minor problem solving.

MID-TERM EXAM

There will be a midterm examination given in this course. Tentative date for mid-term is 3/18. The confirmed date and pattern of this exam will be posted on Canvas and announced in class at least one week prior to the date of the exams.

FINAL EXAM

The final exam will be given on Monday, May 04 5:30 PM to 7:30 PM. The pattern of this exam will be posted on Canvas and announced in class at least two weeks prior to the date of the exams.

GRADING POLICY

Grades will be posted on Canvas throughout the semester to provide an ongoing assessment of student progress, though final assessment will be measured using the weighted average above.

You'll have to wait 24 hours after a grade has been assigned to dispute the grade.

Also, once a grade is assigned on Canvas, students have two weeks to dispute the grade. The proper channel for grade disputes is to first go to the original grader (such as the TA or IA) in an attempt to resolve the issue. If, however, a resolution cannot be reached between the student and the grader, the student shall then go to the instructor who will have the final say on the grade.

STUDENT RESPONSIBILITY

Students are responsible for submitting the *correct* assignments (i.e., uploading the proper files) for each applicable assignment submission on Canvas. When an incorrect assignment is submitted to Canvas, students wanting to resubmit with the correct file(s) *after the due date has passed* will have their assignment assessed a 30% reduction penalty. Proof must be given (i.e., timestamp for the file on the CSE machines) that the assignment was completed on time. If you have any questions or concerns about your submission, please work with your instructor or TA/IA for this course to ensure the correct file(s) is/are submitted.

ADA STATEMENT
The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information, see the Office of Disability Accommodation website at http://disability.unt.edu. You may also contact them by phone at (940) 565-4323.

ACCEPTABLE STUDENT BEHAVIOR

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at http://deanofstudents.unt.edu.

ACADEMIC DISHONESTY

This course follows the Department of Computer Science and Engineering *Cheating Policy*. Specifically, students caught cheating or plagiarizing will receive a "0" for that particular assignment or exam for the first offense. Additionally, the incident may be reported to the Dean of Students, who may impose a further penalty. A second instance of cheating in this class will result in a grade of F in the class, and referral to the Department Chairperson and Dean of Engineering, whereby a dismissal hearing may be initiated by the Dean of Engineering.

Individual assignments, including laboratory exercises and programming assignments, in this course must be the sole work of the individual student. You should not work with other students on shared program solutions or use solutions found on the Internet. Specifically, you should never copy someone else's solution or code, and never let a classmate examine your code. If you are having trouble with an assignment, please consult with your instructor or TA/IA assigned to this course. Failure to adhere to these strict standards may be cause for disciplinary action even leading to expulsion from the University.

Students are responsible for being familiar with the university standard for academic integrity. In the case that the above description or any in-class discussion of appropriate and inappropriate collaboration do not answer all of your questions, please meet with your instructor and look at the university Student Rights and Responsibilities web page.

SYLLABUS REVISIONS

This syllabus may be modified as the course progresses should the instructor deem it necessary. Notice of changes to the syllabus shall be made through Canvas and/or class announcement.