

EECE4270 Communication Systems

Spring 2020

Course Description

Introduce students to analog and digital modulation and demodulation: AM, FM, QAM, PSK, FSK, and some basic knowledge of electronic communication systems.

Class Location and Time:

Time: MWF 11:15 am-12:05 pm Riggs 226

Instructor:

Dr. Linke Guo

Office: EIB 305, Phone: (864) 656 - 2257, Email: linkeg@clemson.edu

Office Hour: TBD

TA: TBD

Course Materials:

Textbook: S. Haykin & M. Moher, Communication Systems, 5th Edition, John Wiley, 2009.

Class Notes, assignments, solutions, etc, are on Canvas

References: 1. J. Proakis and M. Salehi, Contemporary Communication Systems Using MATLAB, Bookware Companion Series, PWS Publishing, 1998.

2. W. Tomasi, Electronic Communications Systems, Fundamentals Through Advanced, 4th Edition, Prentice Hall, 2001.

Course Contents

1. Introduction (Chapter 1)
2. Representation of signals and systems (Chapter 2)
3. Amplitude modulation (Chapter 3)
4. Angle modulation (Chapter 4)
5. Probability theory and random process (Chapter 5)
6. Noise in CW modulation systems (Chapter 6)
7. Transition from analog to digital (Chapter 7)
8. Basics of bandpass digital modulations (Chapter 9)

Grading:

- ✓ Attendance: 5%
- ✓ Homework (about 7): 20%
- ✓ Quizzes (3): 15%
- ✓ Exam 1: 20%

- ✓ Exam 2: 20%
- ✓ Final Exam: 20%

Letter-number grade mapping: [95-100] is A; [90-95] is A-; [87-90] is B+, [83-87] is B, [80-83] is B-, [77-80] is C+, [73-77] is C, [70-73] is C-, [60-70] is D, [0-60] is F.

The policies in this syllabus are general policies common to all courses in ECE. Course specific information will likely be included in a separate, course specific syllabus. **Students are responsible for reading and understanding the information in both this common syllabus and in the course specific syllabus.**

The syllabus is subject to change based on extenuating circumstances or at the instructor's discretion. **In the event that there is a conflict or discrepancy between the common syllabus and course specific syllabus, the course specific syllabus overrides the common syllabus.**

Attendance

Unless otherwise stated on the course specific syllabus, **students are expected to attend class, and to arrive on time.**

In the event of an **emergency**, students should contact the course instructor, preferably before class or the exam. Students should speak with instructors regarding any scheduled absence as soon as possible and develop a plan for any make-up work, if allowed by the instructor. It is the student's responsibility to secure documentation of emergencies, if required by the instructor. A student with an excessive number of absences may be withdrawn at the discretion of the course instructor.

If the instructor is late, students are expected to wait 15 minutes for the instructor to arrive. **August 29, 2019, has been declared an E-Learning Day by the university.** Please refer to the course specific syllabus and in-class information on how class will be conducted on this day. Any further attendance policies in place will be listed on the course specific syllabus, and will serve to supplement these policies.

Inclement Weather Policy

Any exam that was scheduled at the time of a class cancellation due to inclement weather will be given at the next class meeting unless contacted by the instructor. Any assignments due at the time of a class cancellation due to inclement weather will be due at the next class meeting unless contacted by the instructor. Any extension or postponement of assignments or exams must be granted by the instructor via email or Canvas within 24 hours of the weather related cancellation.

Academic Integrity

As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a 'high seminary of learning.' Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any

form. In instances where academic standards may have been compromised, Clemson University has a responsibility to respond appropriately to charges of violations of academic integrity.

Further information on Academic Integrity can be found in the [Undergraduate Announcements](#) and in the [Graduate School Policy Handbook](#).

Access Accommodations

Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to this class should let the professor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848, by emailing studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic Success Center building. Appointments are strongly encouraged – drop-ins will be seen if possible, but there could be a significant wait due to scheduled appointments. Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow this process each semester. You can access further information here: <https://www.clemson.edu/academics/studentaccess/index.html> .

Anti-Harassment and Non-Discrimination

Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This policy is located at <http://www.clemson.edu/campus-life/campus-services/access/title-ix/>. Ms. Alesia Smith is the Clemson University Title IX Coordinator, and the Executive Director of Equity Compliance. Her office is located at 110 Holtzendorff Hall, 864.656.3181 (voice) or 864.656.0899 (TDD).

Online Courses

In an online course, you will interact with the content, instructor, and/or classmates on at least a weekly basis through course assignments, asynchronous discussions and/or synchronous sessions as indicated on the course specific syllabus. Further resources for online courses may be found here: <http://www.clemson.edu/online/students/>.

Computing technology questions may be sent to ITHELP@clemson.edu.

Emergency Procedures

Emergency procedures have been posted in all buildings and on all elevators. Students should review these procedures for their own safety. Students are required to monitor their university email (see <https://www.clemson.edu/studentaffairs/student-handbook/universypolicies/email-communications.html>) thus establishing this as a convenient method for official communication to students. Students are also encouraged to enroll in CU-Safe alerts. See <https://www.clemson.edu/cusafety> for more information.

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