

Fall 2023 : ELEC 3400: COMMUNICATION SYSTEMS

T Th 11:00 am – 12:15 pm Broun 125

Instructor: Prof. J.K. Tugnait 313 Broun, 4-1846, tugnajk@auburn.edu
Office Hours: By appointment – please email.

Prerequisite: ELEC 3800.

Required Textbook: None

Recommended Textbook: S. Haykin and M. Moher, *Communication Systems*, 5th Ed., John Wiley, 2009.

Reference 1: B.P. Lathi and Z. Ding, *Modern Digital & Analog Communication Systems*, 4th Ed., Oxford Univ. Press, 2009.

Reference 2: J.D. Gibson, *Principles of Digital & Analog Communications*, 2nd Ed., Macmillan, 1993.

Grading Basis:

Homework :	10 %	
Test I :	30 %	(Sept. 28, 2023)
Test II :	30 %	(Nov. 16, 2023)
Final:	30 %	(Dec. 7, 2023, Thurs. 10:30 am – 12:30 pm)

Attendance Policy: *Class attendance and participation is required. Unexcused absences from more than 3 class sessions will receive an F in the course.* For an absence to be excused, the student must present an official excuse obtained from the Engineering Student Services Office no later than 1 week after the absence. For more information, see the student policies online at https://www.auburn.edu/student_info/student_policies/.

Homework: will be assigned periodically. Solutions to the homework problems will be discussed in class. **Late homework will not be accepted.** The lowest homework grade will be dropped from your average.

(recommended) TEXT COVERAGE (in listed order)

- Chapter 2 & 5 Background ELEC 2120 and ELEC 3800 material — READING ASSIGNMENT
- Chapter 7 Secs. 7.1-7.6, 7.8, 7.9: Sampling and PCM
- Chapter 8 Baseband digital transmission
- Chapter 9 Digital band-pass transmission techniques (parts)
- Chapters 3 & 4 Amplitude and angle modulation

ELEC 3400. COMMUNICATION SYSTEMS (3). Lec. 3. Pr., ELEC 3800. Pulse code modulation, line coding, information rate, equalization, amplitude modulation, angle modulation, noise in communication systems.