

## Fall 2019 : 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: MW 11:00am – 11:50 am; 3:00 – 4:00 pm;  
e-mail for appointment at other times.

**Prerequisite:** ELEC 3800.

**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 %	( Oct. 3, 2019 )
Test II :	30 %	( Nov. 12, 2019 )
Final :	30 %	( Dec. 12, 2019, Thursday 12:00 noon)

**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 Academic regulations in the Tiger Cub.

**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.

### 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.