

# EE 313 – Introduction to Communication Systems

## Fall 2021

- Course Objectives:** This is a class to introduce the students with the world of communications. Specific topics are use of Fourier techniques in communication systems design and analysis, amplitude modulation (AM), frequency modulation (FM), random signals and noise in communication systems
- Instructor:** Özgür Gürbüz, Room #1109  
[ogurbuz@sabanciuniv.edu](mailto:ogurbuz@sabanciuniv.edu)
- Teaching Assistant:** Kerem Şen, [kerem.sen@sabanciuniv.edu](mailto:kerem.sen@sabanciuniv.edu)
- Class Hours:** Wednesdays, 12:40-13:30, FASS 1008-1010  
Thursdays, 13:40-15:30, FENS L062
- Course Text:** *Modern Digital and Analog Communication Systems*, by B. P. Lathi, 4<sup>th</sup> Edition, Oxford Press, NY, 2010.
- Additional Reading:** *Introduction to Analog and Digital Communications*, by S. Haykin and M. Moher, 2<sup>nd</sup> Edition, John Wiley& Sons, 2007.  
*Communication Systems Engineering*, by J. G. Proakis and M. Salehi, 2<sup>nd</sup> Edition, Prentice-Hall, 2002.  
*Communication Systems*, by S. Haykin, 4th Edition, John Wiley& Sons, 2001.
- Course Contents**
- Introduction to Analog and Digital Communication Systems
  - Review of Signals and Systems
  - Amplitude (Linear) Modulation
  - Angle (Exponential) Modulation
  - Probability, Random Signals and Noise
  - Behavior of Analog Communications in Noise
- Grading:**
- |             |            |          |
|-------------|------------|----------|
| (Tentative) | 2 Midterms | 25% each |
|             | Final      | 30%      |
|             | Quizes     | 20%      |
- Notes:** There will be *only one make up test* for students who have missed a test (a midterm or the final). The make up grade will replace the grade of the missed test. The make up will take place after the final examination and it will cover the entire the course.