This course covers advanced concepts of modern digital communication theory which are implemented in data communication systems such as modems (cable or wireless), cellular phones, basestation, radar, satellite systems etc..

**Prerequisite:** The class is open to any students who have previously learned Linear Algebra, Fourier Analysis, Probability and Random Variables, Basic Communications Theory, and Computer Programming (such as MATLAB).

**Instructor:** Dr. Hayrettin Ayar
hayrettin.ayar@sabanciuniv.edu

**Schedule:**
- Tuesday 14:40-16:30 FASS G018 (In-class and online)
- Wednesday 16:30-17:30 FENS L063 (In-class and online)

**TA:** TBA

**Recitation:** Wednesday 17:40-19:30 (online)

**Office Hours:** By appointment with me or your TA


**Reference Books:**

Tentative Outline

- Ch1 Signals and Spectra Review
- Ch2 Source Formatting
- Probability Review
- Ch3 Baseband Modulation/Demodulation/Detection
- Ch4 Bandpass Modulation and Demodulation/Detection
- Ch6 Channel Coding
- Ch13 Source Coding
- Selected Advanced Topics, as time permits

Tentative Grading

- Assignments 10%
- Midterm 30%
- Project 20%
- Final 40%