ECE 501 – Linear Signals and Systems

- Signals and Systems Syllabus:
  - introduce signals and systems (basic concepts)
  - introduce linear, time-invariant systems (both discrete- and continuous-time variants)
  - discuss the concept of Fourier series as a representation of periodic signals
  - extend the concept of Fourier series to the continuous-time Fourier transform
  - introduce the concept of the discrete-time Fourier transform
  - discuss topics in time and frequency characterization of signals and systems
  - introduce the concept of sampling for conversion from continuous-time to discrete-time signals
  - show how signal processing concepts (modulation) enable design of modern communication systems
  - introduce the Laplace transform representation of continuous-time signals and systems
  - introduce the z-transform representation of discrete-time signals and systems
  - illustrate the design and stabilization of linear feedback systems