

# ELE407 Digital Signal Processing

Web page: <http://www.ee.hacettepe.edu.tr/~usezen/ele407/>

Time schedule: Thursday 13:00 - 15:50, E6

## Textbook

1. Oppenheim and Schaffer, *Discrete-Time Signal Processing*, 3rd Ed., Pearson, 2010.
2. Mitra, *Digital Signal Processing*, 4th Ed., McGraw Hill, 2010.

## Course Contents

1. Review of Discrete-Time Signals & Systems, Fourier and  $Z$ -transforms
2. Sampling, Decimation and Interpolation
3. Frequency Response
4. Quantization
5. Flow Graph Realization of Systems
6. Butterworth and Chebyshev Filter Design
7. Butterworth and Chebyshev Filters, and FIR Filter Design
8. Discrete-Time Fourier Series, DFT and Properties of DFT
9. Fast Fourier Transform (FFT)
10. 2-D Signal Processing

## Grading

2 Term Exams (25% each) and Final Exam (50%).