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EECE 4510/5510 – Digital Signal Processing
Fred J. Frigo, Ph.D.
Fall 2020

Summary:
Introduction to the theory and practice of discrete-time signals and systems. Concepts covered include Fourier Transforms, Z-transforms, linear time invariant system analysis in the time and frequency domains, sampling theory and Discrete Fourier Transforms. Application of these concepts includes digital filter design techniques and the use of Fast Fourier Transforms for efficient frequency domain analysis. Labs and design projects related to specific signal processing applications are used to illustrate the material, including topics such as audio and image processing.

Additional Details:
The outline for the course will parallel the recommended textbook, however, there will be supplemental signal processing content and a project. MATLAB will be used to demonstrate key concepts. Class notes and lecture recordings will be shared on D2L. Assignments will be given at least 2 weeks prior to the due date.

Location & Schedule:
Class meets Tuesdays & Thursdays: 5:30pm-6:45pm
In person - Engineering Hall - Room 323 – or live stream available via Microsoft Teams.

Grading:
Homework and Projects: 60%
Mid-term exam: 20%
Final exam: 20%

Recommended Text:
Title: Introduction to Digital Signal Processing, 1st edition
Authors: Dick Blandford, John Parr
ISBN-10:   0131394061   ISBN-13:   9780131394063
Published by Pearson / Prentice Hall © 2013

Other Notes:
Students are required to comply with all policies outlined in the Undergraduate/Graduate Bulletin, including the Marquette University Honor Code and Honor Policy. Attendance is required. Excessive unexcused absences may result in grade of 'WA' or 'WF'.

Office Hours:
By appointment; using Microsoft Teams or in-person Haggerty Hall – Room 235

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