EO 3404: Applied Digital Signal Processing

Textbook First

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- Follow this if you prefer to read the textbook first and then follow the lectures;
- At the beginning of each section, a link to the appropriate video is clearly marked.
- There are four Units:
  - A. Signals (weeks 1-3)
  - B. The Discrete Fourier Transform (weeks 4-6)
  - C. Filters (weeks 7-10)
  - D. Beamforming (week 11)
- For each Unit please find the Computer Assignments in the “Computer Assignments” folder.
- Quizzes can be taken directly from Sakai, if you have access, or please contact me (rcristi@nps.edu) if you don’t.
Weeks 1-3 Textbook Reading

A. Signals

A1. Introduction to Signals

- Text and PowerPoint Slides
- Questions and Problems
- Computer Assignment A1

A2. Sinusoids and Complex Exponentials

- Text and PowerPoint Slides
- Questions and Problems
- Computer Assignment A2

A3. Frequency Representation

- Text and PowerPoint Slides
- Questions and Problems

Take QUIZ 1
• Weeks 4-6 Textbook Reading

B. The Discrete Fourier Transform

B1- Fourier Analysis

• Text and PowerPoint Slides
• Problems

B2- Spectral Estimation

• Text and PowerPoint Slides
• Problems
• Computer Assignment B1

B3- Short Time Fourier Transform (STFT)

• Text and PowerPoint Slides
• Computer Assignment B2

Take QUIZ 2
• Weeks 7-10 Textbook Reading

C. Filters

C1-Systems

• Text and PowerPoint Slides
• Problems
• Computer Assignment C1

C2-Filter Design

• Text and PowerPoint Slides
• Problems
• Computer Assignment C2

C3-Matched Filters

• Text and PowerPoint Slides
• Problems
• Computer Assignment C3

Take QUIZ 3
• Week 11 Textbook Reading

D. Beamforming

D1-Fourier Transform

• Text and PowerPoint Slides

D2-Beamforming

• Text and PowerPoint Slides
• Computer Assignment D1

The End!