Signals and Systems

Chih-Wei Liu

Course Information

- ## Lecture:
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  - Office hour: 1EF
    - Please make an arrangement via E-mail in advance

- ## Teaching Assistants:
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- ## Course Website
  - http://twins.ee.nctu.edu.tw

Course Information

▶ Text

▶ S. Haykin and B. Van Veen, *Signals and Systems*, 2nd Ed., John Wiley & Sons, 2005 JustAsk Edition

▶ Prerequisties

▶ Calculus

▶ Linear Algebra

▶ The goal of this course is to let students get familiar with signal processing techniques such as Fourier Transform, Laplace Transform, and z-Transform

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Course Grade (tentative)

- **Homework, Labs, and Quizs 40%**
    - Please avoid arriving late or leaving early.
    - At least one problem sets with respect to each Chapter
    - Homework should be handed in on time
- **Midterm Exam 30%**
- **Final Exam 30%**

Signals and Systems Course?

- ▶ One-semester course
  - ▶ The introductory nature of the signals and systems
  - ▶ The analysis of deterministic signals
  - ▶ The analysis of linear time-invariant (LTI) systems
  - ▶ A lots of insightful examples, problems, and computer experiments
- ▶ Although the signals and systems that arise across the diverse fields are naturally different in their physical makeup and application, *the principles and tools of signals and systems are applicable to all of them.*

Syllabus

▶ Fundamentals

▶ Linear Time-Invariant Systems

▶ Fourier Series

▶ Fourier Transform

▶ Discrete-Time Fourier Transform

▶ Time Characterization of Signals / Systems

▶ Frequency Characterization of Signals / Systems

▶ Midterm

▶ Sampling

▶ Laplace Transform

▶ z-Transform

▶ Application Examples

▶ Final