We will use the distance learning technology to enable attendance in multiple classrooms.

- DLC 204: seats 56 students, room from which I will teach
- DLC 205: seats 20 students, used for exams only
- Windows Media Stream: 1-way audio & video, need fast connection
- Windows Media Archive: 1-way audio & video, posted within 24 hours of lecture, can skip forwards and backwards

My Background

- Ph.D. 1999
- Third time teaching this course
- Teaching in PSU ECE dept. 4.5 years
- Research area: Biomedical signal processing
- Ph.D. 1999

Lecture Overview

- Begin Fourier Series
- Class overview & logistics
- Miscellaneous Notes
- Syllabus

This Time
ECE 223 Topics

- Fourier Series Representation of Periodic Signals (Ch. 3)
- Continuous-Time Fourier Transform (Ch. 3)
- Discrete-Time Fourier Transform (Ch. 3)
- Sampling (Ch. 4)
- Introduction to Communications (Ch. 5)
- Introduction to Discrete-Time Filters (Ch. 8)
- The z-Transform (Ch. 7)
- Discrete-Time Fourier Transform (Ch. 3)
- Continuous-Time Fourier Transform (Ch. 3)
- Fourier Series Representation of Periodic Signals (Ch. 3)

Miscellaneous

- Textbook
  - Signals & Systems
    - Relatively new textbook by an established and well-known author
    - Verbose, but thorough
    - Should be shorter and easier to read than text used in previous ECE 410-DSP, Digital Signal Processing
    - Will try to follow closely
    - My notation may differ from the textbook slightly
    - Will be a little rough due to textbook change
    - My notation may differ from the textbook slightly

Assessment

- Homework: 10% (completeness only)
- Exams: 30% each
  - Exam 1
  - Exam 2
  - Exam 3
- Final

- Final, Exam 2, Exam 3: 30% each
- Homework: 10% (completeness only)

- Miscellaneous
  - Not allowed during exams
  - This term will work more with variables than numbers
  - Less important than for ECE 221
  - Scientific calculators
  - Accessible online from https://ece.pdx.edu/~ece2xx/ECE223
  - The ECE 203 labs start next week
  - ECE 203 labs
  - The ECE 203 labs will change
  - WILL have a little more to textbook change
  - Most of the material is new and formerly covered in ECE
  - Course background
  - Third time this course has been taught
Homework & Lectures

• Lecture notes
  – Posted on the class web site
  – Watch for updates as late as 6 pm the day before lecture
  – Workspace is provided for examples that will be filled in during lecture

• Homework solutions will be posted shortly after assigned

• Previous students have used the solutions as a learning tool

• Lectures will also be posted online

• Both will be password protected

    – User name: ECE223 (no space)
    – Password: FFT

User codes from previous terms do not rollover into this term

– First letter in last name & 6 digit code

– Your code

– Email code to me this week

– Use 6 digit code to post your grades online and for anonymous

– Can be any character that you can send in a plain-text email

– Email code to me this week

– Incentive on exams

– Remember it for exams

6-digit Codes and Homework Labels

Homework & Lectures

Course Resources

• Relevant links
  – Course web site: https://ece.pdx.edu/~ece2xx/ECE223

  – Distance learning classroom

  – Homework solutions

  – Lecture notes

  – Syllabus

  – Textbook

Course Web Site

http://ece.pdx.edu/~ece2xx/ECE223

Course Outline

Textbook

Distance Learning Classroom

Office Hours (mine and T.A.’s)

Recitation Sections

IEEE Tutors

Exams

Homework Assignments 

Assignments & Solutions

Online Lecture Notes

Spring 2004
General Comments on Class
• Challenging
• Very little circuit analysis
• Less number crunching
• More focus on signals than systems
• Mixture of core concepts and introductions & overviews of ECE sub-disciplines
  – Core material: Fourier series and transforms, z-transform
  – Introductory material: Sampling, communications, DT filters
  – Mixture of core concepts and introductions & overviews of ECE
  – Similar level of abstraction as ECE 222

Good overview of signal processing fundamentals

Challenging

Homework Assignment 1
• Email me 6-digit code
• Reading
  – Review: Chapters 1 & 2
  – Required: Chapter 3, Sections 1-4
• Required Problems (must turn in)
  – Ch. 3: 48a, 49b, 50d, 51d
  – Recommended Problems (don’t turn in)
  – Ch. 3: 48a, 49b, 50d, 51d
• Recommended Problems (must turn in)
  – Required: Chapter 3, Sections 1-4
• Required Problems due on Monday, April 5 (may postpone on Wednesday)
• Solutions will be posted when possible
• Assignment is also posted on the class web site

Logistics: Text & Lab Assignment Errata
• Each error worth 50% of a homework
• Must be first to email me
• Typos and grammar count
• Cannot receive more than full credit for homework
• Find two errors = can skip an assignment

J. McNames Portland State University ECE 223 Spring 2004 Lecture 1