**ECE 222 Signals & Systems I**

ece.pdx.edu/~ece2xx/ECE222

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**Classrooms**

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

- DLC 204: seats 48 students, room from which I will teach
- DLC 304: seats 32 students, 2-way audio & video
- 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

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**Lecture Overview**

**This Time**

- Syllabus
- Miscellaneous Notes
- Class overview & logistics
- Introduction to Signals & Systems

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**My Background**

- Ph.D. 1999
- Teaching in PSU ECE dept. 5.5 years
- Seventh time teaching this course
- Research area: Biomedical signal processing
  - See http://bsp.pdx.edu
Our Path - Planned

- Fundamentals of Signals
- Linear Time-Invariant Systems
- Convolution
- Laplace Transform
- Laplace Transform Circuit Analysis
- Two-Port Networks
- Transfer Functions
- Analog Filters

Textbooks


- Students like it
  - Concise
  - Orderly presentation
  - Easy to follow methodology (step-by-step mechanics)
  - Many examples

- I didn’t like it
  - Homework problems too easy and insufficient variation
  - Homework solutions used poor & inconsistent methodology
  - Examples and problems contain unrealistic circuit elements
  - Introduction to systems analysis odd (ECE 222)


Textbooks Continued

*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 years
- Will try to follow closely
- My notation may differ from the textbook slightly
- Required

Course Resources

- Textbooks
- IEEE Tutors
- Course web site
- Lecture notes (fourth draft)
- Homework solutions
- Distance learning classroom
- Web site: [http://ece.pdx.edu/~ece2xx/ECE222](http://ece.pdx.edu/~ece2xx/ECE222)
Course Web Site

URL: http://ece.pdx.edu/~ece2xx/ECE222

- Syllabus
- Course outline
- Lecture notes
- Online lectures
- Errata
- Homework assignments & solutions
- Previous course web pages (old exams)
- Grades

Lecture Notes

- Lecture slides were created over the last two years
- Posted on the class web site
- I will be updating them slightly this term
- Watch for updates as late as 6 pm the day before lecture
- Updates will be mostly minor
- Workspace is provided for examples that will be filled in during lecture

Homework & Online Lectures

- 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: ECE222 (no space)
  - Password: Laplace

6-digit Codes

- I use 6-digit codes to post your grades online and for anonymous identification on exams
- Email code to me this week
- Can be any character that you can send via a plain-text email
- Remember it for exams
- Homework labelling:
  - First letter in last name
  - 6 digit code
  - Class & term (ECE 222, Winter Term 2005)
Homework Assignment 1

- Email me 6-digit code
- Read
  - Chapter 1 of Signals & Systems
  - Sections 1.1–1.6, 1.11
- Problems
  - SS Ch. 1: 6, 8, 9c, 9f, 14c, 14e, 21, 47, 49, 50, 52f, 54e, 93, 95
- Assignment is also posted on the class web site
- Solutions will be posted soon
- Due on Wednesday, January 12 - 1.5 weeks

Scientific Calculators

- Less important than for ECE 221
- This term will work more with variables than numbers
- Will not be allowed during exams

Logistics: Text & Lab Assignment Errata

- Each error worth 50% of a homework
- Find two errors = can skip an assignment
- Cannot receive more than full credit for homework
- Typos and grammar do not count
- Must be first to email me
- Known errata are posted on the web site
- New HW will be assigned this term, so expect errors in the HW solutions
- There tend to be more errors in the solutions than the texts

General Comments on Class

- Challenging
- Rapid pace, but slower than ECE 221
- Less number crunching, more abstract analysis than ECE 221
- Many new abstract concepts
- Essential knowledge for other ECE classes, especially ECE 321
- Focus will be on concepts, not the math