

Department of Electrical Engineering  
Stanford University  
EE265: Digital Signal Processing Laboratory  
Winter 2008

**Instructor:** Prof. Teresa H. Meng, CIS 209, thm@stanford.edu.

**Class time:** Tuesdays 3:15pm to 5:05pm, Herrin Hall T175.

**Office hours:** After class and by appointments.

**TA:** Yusheng Yang <yushyang@stanford.edu> and Jiwon Seo <jwseo@stanford.edu>

**Lab session:** Thursdays 3:15pm to 5:05pm, Packard 001.

**TA office hours:** Please see the class website: [www.stanford.edu/class/ee265](http://www.stanford.edu/class/ee265).

**Admin:** Trish Halloran-Krokel, CIS 210, trish@shasta.stanford.edu, 725-3938.

**Prerequisite:** EE102A,B.

**Work Load:** At least 12 hours of work per week besides lectures.

**Reference:** Oppenheim and Schaffer, *Discrete-Time Signal Processing*, 2nd Edition.

**Lab work:** 7 lab exercises due on Thursday during TA office hours.

**Homework:** 7 homework sets due on Tuesdays in class (2 late submissions every quarter).

**Grading:** 50% lab exercises, 20% homework, 30% final project.

| Date         | Lecture Topic                                                             | Reading                             | Assignments Due             |
|--------------|---------------------------------------------------------------------------|-------------------------------------|-----------------------------|
| 1/8<br>1/10  | Lecture #1: Reviews<br>Lab #1: TI DSP tutorial.                           | Chap. 2, 3, 5.0-5.3, 6<br>TI manual |                             |
| 1/15<br>1/17 | Lecture #2: Sampling Theory, ADC and DAC<br>Lab #2: Working with hardware | Chap. 4.0-4.5, 4.8                  | HW #1 due<br>Lab #1 due     |
| 1/22<br>1/24 | Lecture #3: Allpass and Linear-Phase Filters<br>Lab #2: Continued         | Chap. 5.4-5.7                       | HW #2 due<br>Lab #2 ABC due |
| 1/29<br>1/31 | Lecture #4: Quantization Effects<br>Lab #3: Filtering                     | Chap. 6.6-6.8                       | HW #3 due<br>Lab #2 DE due  |
| 2/5<br>2/7   | Lecture #5: DFT, DFS, and FFT<br>Lab #4: Frequency Domain Calculation     | Chap. 8.1-8.6                       | HW #4 due<br>Lab #3 due     |
| 2/12<br>2/14 | Lecture #6: Interpolation and Decimation<br>Lab #4: Continued             | Chap. 4.6, 4.9                      | HW #5 due<br>Lab #4 AB due  |
| 2/19<br>2/21 | Lecture #7: Digital FIR Filter Design<br>Lab #5: Rate Conversion          | Chap. 7.2-7.5                       | HW #6 due<br>Lab #4 C due   |
| 2/26<br>2/28 | Lecture #8: OFDM and its Applications<br>Final project issued.            |                                     | HW #7 due<br>Lab #5 due     |
| 3/4<br>3/6   | Lecture #9: Special Topics<br>Final project discussion                    |                                     |                             |
| 3/11         | Lecture #10: Special Topics                                               |                                     |                             |