EE 368 Signals and Systems Laboratory (1)  
Instructor: James G. Harris  
Prerequisite: EE 228; Concurrent: EE 328  
Objective: The student will learn to perform laboratory work pertaining to linear systems, including  
Fourier analysis, time and frequency responses, and system transfer function. This laboratory course is  
under development and is subject to changes as the course progresses.  
Textbook: EE 368 Lab Manual and handouts for new experiments  
References: EE 328 texts and references  
Wolf, Stanley and Smith, Richard F. M.; Student Reference Manual for Electronic Instrumentation  
Laboratories; Prentice Hall; 2003  
Matlab help resources: available on computers in lab  
Course Website Reference: http://www.ee.calpoly.edu/~jharris  
Pre-lab: Preparation for each experiment will require reading assignments and assigned work. Each  
experiment will have prelab work due at the beginning of the lab. The prelab work should be documented  
on engineering paper, and should be incorporated into the report for the experiment; each student must  
submit the prelab work.  
Reports: This laboratory course is implemented using the schedule below for each of the three hour  
laboratory periods. Laboratory reports are completed in the laboratory, and are due at the end of their last  
laboratory period. The student will use the computer to prepare the lab report. The laboratory reports  
must follow the laboratory notebook format learned in the lower division EE laboratory courses. With  
each lab report, each partner will provide a concluding paragraph that summarizes what they have learned  
from the experiment, and their prelab work. The laboratory report will be graded, and will be available to  
the student before the next lab period.  
Laboratory notebooks: Each student will document their individual record of the laboratory experience in  
a bound 8 ½ by 11 inch engineering notebook. This student will use this personal notebook as the sole  
reference for the laboratory final.  
Supplies: Students are to obtain any required leads or supplies from the Senior Project Room checkout  
window in 20-111 prior to starting the laboratory period. Any required supplies for active filter circuits  
will be provided to each student group, who will be required to return them after the project.  
Lab Final: There will be a comprehensive laboratory final the last week of classes; the test may consist of  
both written and experimental parts. Details will be provided prior to Lab Finals week.  
Grades: The grade will be based upon the following proportion:  
- Lab work, demo, and lab reports: 70%  
- Final exam (50 minutes): 30%  
The prelab work should be incorporated into the laboratory report, and will be included in the grade for  
the experiment for each student. Improvement or degradation in student performance over the quarter will  
be used to resolve borderline cases.  
Office Hours: MWF 910-1000; MW 1510-1600; 20-305 x65708 email: jharris@calpoly.edu.  
I will be in lab (20-113) Tuesday from 8-11 and 3-6, and can be available after the opening discussion on  
a non-interference basis with the lab students taking priority. Other times available by arrangement.  
Note to the student: There may be times that the instructor will be absent from the class in order to  
participate in national engineering education activities; other assistance will be provided during these  
periods. Your understanding is appreciated.
EE 368 Laboratory Schedule (tentative)

The EE 368 laboratory is under development, and not all instructors will be doing the same experiments. The projects for these sections are documented in the EE 368 Lab Manual, and the experiment referenced is given in the topic description. A handout will be provided the week before each project, which will define the project requirements, including the prelab work to be submitted. There is a good possibility that the schedule will be modified as the class progresses.

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<th>Week</th>
<th>Project</th>
<th>Topic</th>
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<tr>
<td>3/30</td>
<td>Introduction</td>
<td>Matlab and sampling; handout provided</td>
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<td>4/6</td>
<td>1</td>
<td>Passive bandpass system; exp 3</td>
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<tr>
<td>4/13</td>
<td>2</td>
<td>Active bandpass filter; exp 5</td>
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<tr>
<td>4/20</td>
<td>3</td>
<td>Spectral analysis; exp 8</td>
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<tr>
<td>4/27</td>
<td>4</td>
<td>DFT spectrum analyzer; exp 9a</td>
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<td>5/4</td>
<td>5</td>
<td>Input-output spectra; exp 9b</td>
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<td>5/11</td>
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<td>Lead network; exp 10a</td>
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<td>5/18</td>
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<td>Time domain sampling; exp 12</td>
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<td>5/25</td>
<td>8</td>
<td>Synthesizing sound; exp 13b</td>
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<td>6/1</td>
<td>Lab Final</td>
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