

EECS 360 – Signal and System Analysis

Laboratory Syllabus

Spring 2011

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Schedule: Tuesday 2:30 – 4:50 pm and Thursday 12:30 – 2:50 pm; 1005A Eaton Hall

Lab web page: http://people.eecs.ku.edu/~esp/class/S11_360/lab/

Labs: (Note – Lab schedule and contents might be changed with regards to the lecture)

Session 1

Session 2

01/25/2011	01/27/2011	Lab 1: Introduction to Matlab
02/01/2011	02/03/2011	Lab 2: Matlab Functions
02/08/2011	02/10/2011	Lab 3: Loops in Matlab
02/15/2011	02/17/2011	Lab 4: Discrete Convolution
02/22/2011	02/24/2011	Lab 5: Fourier Series
03/01/2011	03/03/2011	Lab 6: Audio Filtering
03/08/2011	03/10/2011	Lab 7: Continuous Time Fourier Series
03/15/2011	03/17/2011	Lab 8: Approximation of CTFT
03/29/2011	03/31/2011	Lab 9: DFT and FFT
04/05/2011	04/07/2011	Lab 10: Sampling and Signal Reconstruction
04/12/2011	04/14/2011	Lab 11: Sampling Frequency and Aliasing
04/19/2011	04/21/2011	Lab 12: Laplace Transform
04/26/2011	04/28/2011	Lab 13: Z-Transform
05/03/2011	05/05/2011	Lab 14: Introduction to Simulink

Requirement and Grading:

Then grading is based on your performance during the lab session and your report. You are required to turn in a lab report **individually** for each lab with the lab report format attached below. Lab report has to be in printout format. Each week’s lab report is due the following week **before** the lab sessions. Your lab report will **not** be graded if turned in late. Exceptions might be considered with the notice ahead of time.

Lab Report Format:

In general, your lab report should consist of the following sections:

1. Cover page: Lab title and number, date submitted, name, KUID.
2. Objective: Describe briefly what you are trying to do in this lab.
3. Procedure: How are you solving the problem, describe methodology and your approach.
4. Description: Answer all the questions listed in the lab handout with descriptions (plots, equations, derivation, etc).

Note: Most of the plots generated by Matlab can be converted and imported into MS word compatible format.

5. Conclusion

Sample Lab Report: Next page

Lab 1 Report

Introduction to Matlab

Ima K.U. Student

KUID: 1234567

Date submitted: 01/01/2011

Objective:

Brief problem statement. Example - In this lab, we learn how to use simple functions in Matlab to solve engineering problems such as calculation and plotting.

Procedure:

Sequence of steps followed to achieve objective. We used Matlab to calculate some function values with a certain range, and plot them.

Description:

Elaborate on the steps and provide results in the form of graphs and answers to specifically asked questions. Good place to identify and explain interesting and important phenomena.

Calculate function $f(x)=1+x^2$ with x ranging from $[-10, 10]$

```
f(x)= 101 82 65 50 37 26 17 10 5 2 1 2
```

```
5 10 17 26 37 50 65 82 101
```

```
x=[-10:10]; f =1+x.^2;
```

```
Plot function f(x) by using command: plot(x, f)
```

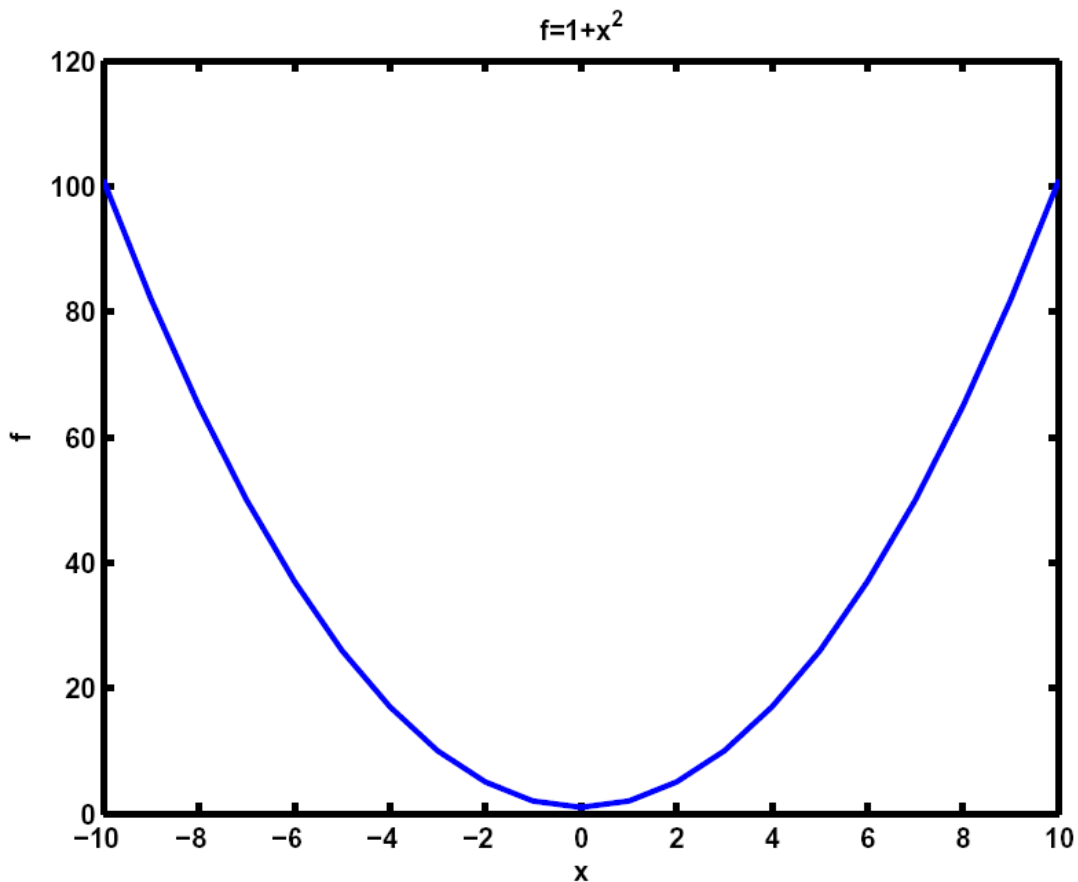


Figure 1: Sample Matlab Plot

Conclusion:

Brief text describing key concepts and lessons learnt by student.