ET 438a
Using Matlab to Generate Bode and Step Responses

1.) Start any of the computers in the computer and find the student version of Matlab under the program menu.
2.) Start Matlab. After Matlab loads, click on the file menu and select New m-File. This will start a text editor for making Matlab script files.
3.) Enter the following lines of code and save the file.

```
clear all;
close all;
n=input('enter the numerator coefficients: ');
d=input('enter the denominator coefficients: ');
sys=tf(n,d);
sys
bode(sys);
grid on;
G=1./n;
sys=sys*G
sys
figure;
step(sys);
```

4.) From the Matlab prompt, >>, type the filename that you give to this script file. This will run the script file.
5.) Follow the program prompts. Enter the numerator coefficients in decreasing powers of s (e.g. s^2, s^1, s^0).
6.) Enter the denominator coefficients in decreasing powers of s.
7.) The program will automatically produce the Bode and step responses of the defined transfer function.
8.) Cut and paste the graphs into Word for printing or print the results directly from Matlab.