

ECE503 Homework Assignment Number 1

Due by 8:50pm on Monday 23-Jan-2012

IMPORTANT: Please place your ECE mailbox number on all homework assignments. Your ECE mailbox number can be found on the course web page.

Make sure your reasoning and work are clear to receive full credit for each problem. Points will be deducted for a disorderly presentation of your solution. Please also refer to the course academic honesty policies regarding collaboration on homework assignments.

This assignment should be largely review from material you learned in an undergraduate discrete-time signals and systems course like ECE2312. It is recommended that you skim over all of the problems in Chapters 2 and 3. Most of the problems in these chapters should be straightforward with the background of an undergraduate course in discrete-time signals and systems.

1. 4 points. Mitra 2.4.
2. 3 points. Mitra 2.30. You can/should use Matlab to confirm your answers are correct at least for some particular choices of α .
3. 4 points. Mitra 2.47. You can/should use Matlab here to confirm your answers are correct.
4. 4 points. Mitra M2.4(a). Please be sure to comment your Matlab function. To generate a figure that looks exactly like Figure 2.22 in Mitra, you can use the command `subplot(4,2,n)` which generates a 4×2 array of little plots and puts your next plot in the n th position.
5. 3 points. Mitra 3.15.
6. 3 points. Mitra 3.61.
7. 4 points. Mitra 3.66.