Fall 2017   EE 313 Linear Systems and Signals   Prof. Evans

Homework #4

Finite Impulse Response (FIR) Filters

Assigned on Friday, October 6, 2017
Due on Friday, October 13, 2017, by 12:30 pm via Canvas submission

Late homework will not be accepted.

Reading: McClellan, Schafer and Yoder, *Signal Processing First*, 2003, Chapter 5 (all).
Companion Web site with demos and other supplemental information: http://dspfirst.gatech.edu/
Web site contains solutions to selected homework problems from *DSP First*.

Location of TA office hours and Ms. Ghosh's e-mail address are given on Canvas at

https://cluster34-files.instructure.com/courses/1017~1202937/files/1017~42941474/course%20files/signals/homework/homework1.pdf

and you must already be logged into Canvas at canvas.utexas.edu for the above link to work

Office hours for Ms. Ghosh and Prof. Evans follow, as well as Prof. Evans' coffee hours on Friday.

Time Slot	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
9:00 am			**Ghosh**		
9:30 am			**Ghosh**		
10:00 am			**Ghosh**		
10:30 am					
11:00 am		**Ghosh**		**Ghosh**	
11:30 am		**Ghosh**		**Ghosh**	
12:00 pm		**Ghosh**		**Ghosh**	Evans (EER cafe)
12:30 pm		Evans (EER 1.516)		Evans (EER 1.516)	Evans (EER cafe)
1:00 pm		Evans (EER 1.516)	Evans (EER 6.882)	Evans (EER 1.516)	Evans (EER cafe)
1:30 pm		Evans (EER 1.516)	Evans (EER 6.882)	Evans (EER 1.516)	Evans (EER cafe)
2:00 pm			Evans (EER 6.882)	Evans (EER 6.882)	
2:30 pm				Evans (EER 6.882)	
3:00 pm				Evans (EER 6.882)	

EE 313 tutoring is available on Mondays through Thursdays from 7:00pm to 10:00pm in ETC 4.150:

http://www.ece.utexas.edu/undergraduate/tutoring

1. Averaging Filter. 25 points.

Signal Processing First, problem P-5.2, page 126.

In part (c), please submit a hand sketch and a MATLAB plot.

This problem is identical to problem 5-35 in *DSP First*, which has a solution at dspfirst.gatech.edu.

2. System Properties. 25 points.

Signal Processing First, problem P-5.9, page 128.

3. Deconvolution. 25 points.

Signal Processing First, problem P-5.14, page 128.

4. Cascaded System. 20 points.

Signal Processing First, problem P-5.17, page 129.

As stated on the course descriptor, "Discussion of homework questions is encouraged. Please be sure to submit your own independent homework solution."

NOTE: In your solutions, please put all work for problem 1 together, then all work for problem 2 together, etc. Please see additional homework guidelines on the homework page.