Fall 2018   EE 313 Linear Systems and Signals   Prof. Evans

Homework #5

Time and Frequency Responses of FIR Filters

Assigned on Saturday, October 13, 2018
Due on Friday, October 19, 2017, by 5:00 pm via Canvas submission

Late homework is subject to a penalty of two points per minute late.

Reading: McClellan, Schafer & Yoder, *Signal Processing First*, 2003, Sec. 5.4-5.9 and 6.1-6.6.
Companion Web site with demos and other supplemental information: http://dspfirst.gatech.edu/
Web site contains solutions to selected homework problems from *DSP First*.

The e-mail address for Mr. Houshang Salimian (TA) is salimian.houshang@gmail.com.
Office hours for Mr. Salimian and Prof. Evans follow:

Time Slot	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
11:00 am		**Salimian (EER 0.814 Table #4)**		**Salimian (EER 0.814A)**	**Salimian (EER 0.814D)**
11:30 am		**Salimian (EER 0.814 Table #4)**		**Salimian (EER 0.814A)**	**Salimian (EER 0.814D)**
12:00 pm		**Salimian (EER 0.814 Table #4)**		**Salimian (EER 0.814A)**	**Salimian (EER 0.814D)**
12:30 pm		Evans (EER 1.516)		Evans (EER 1.516)	**Salimian (EER 0.814D)**
1:00 pm		Evans (EER 1.516)		Evans (EER 1.516)	
1:30 pm		Evans (EER 1.516)		Evans (EER 1.516)	
2:00 pm		Evans (EER 6.882)	Evans (EER 6.882)	Evans (EER 6.882)	
2:30 pm		Evans (EER 6.882)	Evans (EER 6.882)	Evans (EER 6.882)	
3:00 pm		Evans (EER 6.882)	**Salimian (EER 1.810)**	Evans (EER 6.882)	
3:30 pm			**Salimian (EER 1.810)**		
4:00 pm			**Salimian (EER 1.810)**		
4:30 pm					

Prof. Evans holds coffee/advising hours on Fridays 12:00-2:00pm in the EERC café.

EE 313 tutoring is available on Sundays through Thursdays from 7:00pm to 10:00pm in EER 0.814:
http://www.ece.utexas.edu/undergraduate/tutoring

1. System Properties. 20 points.

Signal Processing First, problem P-5.10, page 128. Use the linearity and time-invariant system properties to solve the problem.

2. Cascaded System. 30 points.

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

2. Frequency Response. 25 points.

Signal Processing First, problem P-6.4, page 157.

4. Introduction to *Z*-transforms. 25 points.

Signal Processing First, problem P-6.10, page 159.

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.