

CENG 4331 Review for Exam 1 Fall 2015 – Closed Book –  
One Hour – September 16.

Ch. 1 Always Review your Homework from Chapter 1 and review the Chapter 1 document on my web site.

1. Know the definitions of the step, ramp, and impulse signals for continuous-time and discrete signals (Pages 2-4, 14-15). Know the relationship between the signals.
2. Be able to decide if a sum of two periodic signals is also periodic, and be able to calculate the period of the combined signals if it is periodic. (Example 1.1, p.6 and discrete p. 16)
3. Make sure you understand the sine wave  $x(t)=\sin(\omega t +\theta)$  and can determine radians/sec, Hertz, phase delay and time delay.
4. Understand how to express the sampling of a continuous time signal to produce a discrete-time signal (p.13).
5. Understand time shifted continuous and discrete signals (Pages 6 and 18). Study the sine wave on Page 5.

6. Understand the system concepts of linearity versus non-linearity, and time invariance versus time varying for continuous and discrete systems (Pages 33 and 36). Understand basic types of linear systems and their properties as in Problems 1.18 and 1.23.

7. Go through the examples and problems with solutions on Kamen and Heck web site that pertain to Chapter 1.

Ch. 2 Always Review your Homework from Chapter 2 and review the Chapter 2 document on my web site.

1. Understand the types of Digital filters such as Moving Average (P44), Weighted (P 45), Recursive (P59).

2. Be able to do discrete convolution

3. Be able to solve difference equations (P55-62, and Example 2.6)

4. Study the Examples 2.11-2.14 P72-77 – Continuous and Difference equations solution methods.