ELEG 305 SIGNALS AND SYSTEMS
SPRING 2019

- **All Homeworks and Homework Quizzes are worth 25 points.**
- **Homeworks and Solutions from Spring 2018 have been posted on Canvas.**

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HOMEWORK #3

- *Do not hand in*
- *There will be a Quiz, in Lecture, on one of the following problems on Thursday March 7. Solutions will be posted to all of these problems before the Quiz.*
- *Math Review Problems are extra credit on this assignment (5 points) and will not be asked on the Quiz. Please hand them in on Thursday March 7 in Lecture.*

O&W: Problems #2.22 (a,b), #2.28 (a,c,d), #2.29 (a,b,d), and #2.30

Conceptual: Consider a continuous-time communications system (like cellular or WiFi). The signal that you get from the cell site or wireless router arrives by many paths because it bounces off of everything. Let's assume that there are only two paths: a direct one, and another that bounces off the ground first. The second received signal is a replica of the transmitted signal, but it arrives delayed and attenuated relative to the first. What is the impulse response?

Math Review: O&W Problem #2.61 (a,b) (sub-part (ii) only) The equations (sub-part (i)) for (a) and (b) are:

$$\text{(a)} \quad LC\frac{d^2y(t)}{dt^2} + y(t) = x(t)$$

$$\text{(b)} \quad RC\frac{dy(t)}{dt} + y(t) = x(t)$$

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EXAM # 1 Tuesday March 12
- Closed everything: no calculators, cellphones, laptops, …
- Chapters 1 and 2
- Review on Monday March 11