REPORT ON THE KNOWLEDGE PROBE SIGNALS & SYSTEMS, ECE-314

TERM : FALL-2009.
INSTRUCTOR : Balu Santhanam

The knowledge probe developed by Prof. Sudharman K. Jayaweera was administered during the first week of classes. Of the 37 students that were registered for the class, 28 students turned in the knowledge probe. The maximum grade possible on the knowledge probe was 10.

Sample statistics were calculated from the 28 probes that were returned. The sample mean was 4/10 and the standard deviation was 2.53/10 and the sample median was 4/10. 11 students secured more than 50 % on the probe. 4 students secured more than 80 % on the knowledge probe. 8 students secured more than 80 % on the probe.

Of the students who secured below 50 % on the knowledge, there were two categories of students: (a) those student who had seen the material before but had forgotten it, and (b) those that had not seen some of the concepts before. The first category can be addressed to a certain extent by proper attendance in the review session that is administered by the graduate assistant assigned to the class. The second category is an inherent problem in the way that both courses: ECE-213 and differential equations class are taught.

Students are supposed to see material on evaluating the convolution integral, they are supposed to be familiar with the unilateral Laplace transform and its properties, and the Fourier series from the Circuits-II class, ECE-213. They are supposed to be able to solve a constant coefficient second-order differential equation. They are also supposed to be able to write down KCL or KVL for passive R-L-C circuits. The instructor teaching ECE-213 needs to coordinate with this class so that we can ensure that the material need in ECE-314 is covered. There is not enough time in this class to go over material that should have been covered elsewhere.

In comparison to the batch of students who took this class last year, there is a significant improvement in both the performance of the students and their attitude towards learning.