



Inside engage

Rocky Top: EF 152 style

The latest team project in EF 152 was to build an instrument to play Rocky Top. This was done in conjunction with our unit on sound. Students had to use their knowledge of natural frequencies of strings and air columns to design an instrument. Each group played their instrument for the class, and then we made a band and had everyone play at once. We regrettably report, though, that we were not much competition for The Pride of the Southland Band, but we had fun. During the sound unit, we also had Dr. Bill Snyder, former dean and chancellor, play the organ in the Cox auditorium. In addition to classic organ pieces, Bill played Rocky Top (of course), the Tennessee Waltz, and Take Me Out to the Ballgame for his encore.



Rocky Top Trivia: We do believe that the only mention of Rocky Top in an engineering journal was when Richard Bennett, Director of Engineering Fundamentals, published the results of his monitoring of Neyland Stadium and specifically gave the dynamic strains in the upper deck steel beams during the singing of Rocky Top. The reference is Bennett, R.M., and Swensson, K. (1997). "Spectator Live Loads During Football Games." Journal of Structural Engineering, ASCE, 123(11), 1545-1547.



EF 151 Recitation: Learning Vectors



To give you an idea of things that are done in our recitations, we will tell how we teach vectors, which is the second recitation of the semester. Students sit at tables of four, and are given a large graph sheet that covers the table. They have to draw out a variety of vectors, and perform vector

operations such as finding components and adding vectors. One problem is having to take a detour to get to an In-N-Out burger joint. Teaching vectors this way has been found to be effective in promoting collaborative learning, getting students to talk to each other, and getting students to working together as a team.

The EF Newton's Cradle

Come by and see Tennessee's largest Newton's cradle, built with bowling balls.



Featured Problem (from EF 151 homework): A 340 lb Halloween coffin sits on the floor of Estabrook 111. The coefficient of kinetic friction between the floor and the coffin is 0.54. How much work does it take to push the coffin 15 ft along the floor at a constant speed? Answer: 2754 ft-lb

