



Friction

To give you a little idea of how our recitations work, we will briefly describe the lab we are doing this week on friction. Each team of 4 students has an



electrical box and a piece of wood. They measure both the static and kinetic coefficient of friction using an inclined plane. Mass can be easily added to the box to see the effect of that on the coefficient of friction. Based on these measurements they predict how far the box will slide on a level surface, and make



measurements to confirm their calculations. Finally, we use a large inclined plane to measure the coefficient of friction of a person. Dr. Bennett's coefficient of friction is 0.32.

Updates to the Online Homework System

We featured our online homework system in the March 2009 issue of Inside Engage (all old issues are available on our web site). Each student works the same problem, but has different numbers. Will Schleiter has recently added three enhancements to the system.

Punt: Students can choose to punt a problem. They forfeit all points, but get to see the answer. We have had 47 punts in EF 152.

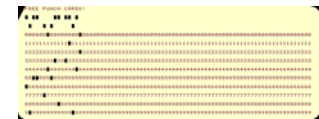
Common Mistake: A box will pop up when the student makes a common mistake, giving them immediate feedback. For example, a common mistake might be using the wrong trig function to find a vector component.

Unreasonable Answer: A box will pop up telling students their answer was unreasonable and why. For example, a cart rolling down a hill will not have an acceleration greater than gravity.

EF 105: Calculators and Slide Rules



Engineering Fundamentals teaches a 1 hour computer course to freshman engineers, EF 105. The course covers Excel and Matlab, but we also spend one week on calculators—teaching students to use the solver, how to solve simultaneous linear equations, and simple programming. We are true to history and tell students about the slide rule, including having them use a virtual slide rule on the web (link is below). We also give the students a brief virtual tour of the old calculator museum. We stop short of having students use the old punch cards, although Dr. Bennett still has a few of those on his desk. Enjoy the following links, and feel free to



visit the entire course web site at <http://ef.engr.utk.edu/ef105>.

<http://ef.engr.utk.edu/ef105-2010-01/modules/calculator/sliderule/virtual-slide-rule.html>

<http://www.oldcalculatormuseum.com/index.html>