

Course: Elements of Machines

- Design at least one activity for your class to create an effective course climate.

I have used a number of exercises or openers in class to get students and myself to work more closely by getting to know each other better. The average class size in our department is 20 and so faculty and students quickly get to know one another by name. My goal is to know something more, to establish a “climate” where students feel comfortable asking questions and challenging ideas presented in class. With this in mind, I like to ask students to tell me why they became interested in engineering and more specifically, why engineering technology. This does a few things: one – I get to identify some preconceived notions about engineering technology that I work to dispel throughout the semester and two, since many of the students come to our program from other engineering disciplines (ME, CE, ChE, EE) I can draw similarities to all these disciplines which make all the students more comfortable. Many of these students will have had me in class already, so I also gain insight into their expectations of me. This coming semester I will do this with a random draw type system with a series of questions, each student picks one randomly.

- Create three conceptual questions for the course (Our school does not have clickers or other answer selection devices, so questions that utilize such devices would not work).
 - a) Is factor of safety (design factor) important to machine design? Why or why not?
 - b) How does fatigue impact decisions in the design of machine elements?
 - c) Under what circumstances can angle of twist be used to determine the effect of torsional shear?