

11 January 2012

Electrical Engineer

Dear Sir or Madam,

Welcome to ECE320/ ECE 329, Energy Systems I. This is an introductory course on one of the two important sets of applications of electrical technology: the effective transportation of energy. (The other important set is the effective transportation of information.)

Your instructor is Dr. Herb Hess, Professor of Electrical Engineering. The text for this course is Electric Machinery Fundamentals, Fifth Edition by Stephen Chapman. The class meets at 12:00 on Mondays, Wednesdays, and Fridays. There is a laboratory requirement, for which you will be given instructions separately. There is no lab meeting during the first week of class.

In this course, we expect to achieve the following four goals:

- a. Gain a propensity to use first principles to solve problems. We take a physical approach and use our circuit theory extensively. A solid foundation in these will serve us well here.
- b. Improve our communications and problem solving skills. This means a great deal of oral presentation practice in the classroom and written lab reports.
- c. Understand common methods whereby we convert energy from one form to another and relocate energy from place to another.
- d. Gain the ability to develop and apply mathematical models to predict behavior of electromechanical systems from first principles. We use both classroom and laboratory sessions to enhance our understanding of the relationship between the abstract model and the physical system.

You may have heard that you will be expected to give a multitude of short oral presentations on your technical work, mostly short homework-type problems. That is correct. Engineers make short technical presentations to peers, immediate supervisors, and customers for a living, often with little advance notice. Successful engineers are quite good at this. The best way to become good at this is to do it often, extinguishing the shortcomings as they appear. Here, we give you such opportunities and we promise not to fire you, even if you botch it badly.

Again, welcome to ECE320. I look forward to learning from you while helping you become a better engineer.

Herbert L. Hess  
Professor