Catalog Description: Introduction to the engineering profession. Topics include engineering disciplines, ethics, impact of technology on the world, analysis, engineering design, and problem solving. Earning a grade of B or better in EGR1301 is pre-requisite for EGR1302.


Study and Lab Room: Rogers 308. Your section of 1301 is entrusted with card-swipe access. Do not use the room between 23:00 and 06:00. No food or drink in the room because it houses some important research equipment. Keep the room neat and clean. Be a good neighbor.

Computer: You need a TI-89 calculator, or something similar. You also need access to a laptop or PC with Excel for homework, but you will not use a laptop in class or on tests. In the spring follow-up course, EGR1302, you will need a Windows-based laptop and TI-89 calculator.

Reading and Homework assignments are made each Wednesday, with homework due on the following Wednesday. Students are encouraged to work together on homework for efficiency reasons, but each student turns in their own homework for grading. Warning – if you simply copy another student’s homework without understanding it, you will not be able to pass the tests.

Topics and Lab Projects: Solving N equations, N unknowns; solving an overdetermined set of equations N+M by N using least squared error; Microsoft Excel; coordinate systems; solar position equations and measurements; forces, statics, structures; electrical circuits; wind and solar energy; economics. Some homework requires laboratory experiments and projects in Rogers 308. These are presently being refined, but will include learning about solar panels by using those atop Rogers 308, measuring sun angles and comparing measured angles to equations, wood and glue projects for structures, temperature time constants of heated objects immersed in cold water, soldering and testing a printed circuit board with resistors and comparing measurements to calculations, basics of electric motors, disco stoplight. Tools and supplies are provided in Rogers 308. Two-person teams are encouraged for some projects, partner requests are considered, but no repeat partners.

Attendance and Conduct: Nothing is more important to success than “showing up” for class, and arriving on time. Having 10 absences is grounds for an “F.” Classroom environment is formal. The professor does the talking. To ask a question, raise your hand, state your last name, and be recognized.

Notebooks: Taking notes on a laptop is not practical in engineering courses because we deal with figures and diagrams. Instead, take class notes in a bound lab notebook. No spiral bound or loose leafs. A good choice is the soft brown-covered lab notebook available at the Baylor Book Store. You can also use one of the smaller $1 versions from Walmart. The purpose of notebooks is to help you develop good note-taking skills, which is very important for engineers. You receive a grade for your notebook. Some excellent sample notebooks from Fall 2013 will be circulated in class. Take cell phone photos of new pages each week, in case you lose your notebook. Cutting and pasting in notebooks (scissors and tape) is fine. You work the tests and final exam in your notebook, thus having access to your own notes.

Grade Components: No plus/minus grades in EGR1301 this semester. Weighting:
- Tests 1 through 5 (on Wednesdays, drop the lowest to take care of absences) 60%
- Homework and Labs 15%
- Notebook 10%
- Final Exam (Baylor-specified time and place) 15%

Class Ranking is important. You will be informed of your class ranking after each test.

Web Site: http://web.ecs.baylor.edu/faculty/grady/, “Course materials.” Contains solutions, lecture notes, etc.

Cheating on Tests: Don’t. Should it occur, it will be handled through Baylor’s formal procedure. Each test has several versions with different answers, and seats are randomly assigned on test days.