

GNEG 1103
Introduction to Engineering
Course Syllabus – Fall 2005

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Section: Section 1
Time: MWF 9:30pm-10:20am
Location: ENGR 209

Course Objective: This course is designed to provide an introduction to the process and diversity of the fields of engineering for students in the first year of undergraduate study. The course will introduce students to the most common problem solving techniques used by engineers, with an emphasis on mass and energy balances within dynamic systems.

Required Textbook: Concepts in Engineering – Holtzapple and Reece

Course Objectives: Through this course, students should develop the following competencies:

- Engineering Communication Tools
 - Word – formatting, lists, tables, equation editor, inserting graphics, wrapping text
 - PowerPoint – views, slide masters, design templates, creating slides, creating a good presentation
 - Excel – develop, use, and document spreadsheets as modeling and analysis tools
 - Apply descriptive statistics (mean, mode, median, standard deviation), LMS regression, means comparison.
 - Practice team management using standard tools, including Gantt Charts, Work Breakdown Structures, Critical Path Methods.

- Communicate with confidence verbally and in writing at multiple levels – informal, technical, and professional.
- First Year Experience Skills
 - Develop study and test taking skills
 - Learn time management skills
 - Develop project management skills
 - Develop living ethics - the choices engineers face every day when designing complex systems with incomplete information.

Class Procedures: Three one-hour lectures per week.

Homework Policies:

1. Homework will be due at the beginning of the class period listed as the due date (typically the Monday after they are assigned). No late assignments will be accepted.
2. Homework must be performed in standard engineering format. Communication skills are extremely important for engineers; it is critical that you communicate your work effectively and clearly. All homework should be submitted on engineering paper or computer printouts.
3. You are encouraged to work with other students in the class. However, the work you turn in should reflect your own effort unless specifically instructed to collaborate.
4. Students are expected to abide by academic honesty and ethics described in the University Of Arkansas Undergraduate Catalog Of Studies. Any academic dishonesty will automatically result in Grade F and will be reported to the Dean of Students.

Grading Scale: The following is a scale of percentage and total points needed to attain a letter grade:

A	90% - 100% or 900 – 1000 pts
B	80% - 89.9% or 800 – 899 pts
C	70% - 79.9% or 700 – 799 pts
D	60% - 69.9% or 600 – 699 pts
F	0% - 59.9% or 0 – 599 pts

Homework / Quizzes: There will be 600 homework/quiz points available throughout the semester. Homework will be assigned during Monday’s class period and be due AT THE BEGINNING OF CLASS the following Monday, giving a full week for each homework assignment to be completed. No late assignments will be accepted without documentation and previous arrangement. Quizzes will be unannounced, class-time assignments which will be weighed the same as homework assignments. No make-up quizzes will be offered.

Exams: There will be 3 exams given throughout the semester and a comprehensive final at the end of the semester. A total of 400 exam points will be available. The following are final exam dates:

Thurs, Dec 8, 2005 12:30pm -2:30pm

- IV. Engineering Design
 - a. Design process – need, definition, search, constraints, criteria for success, etc.
 - b. Economics
 - c. Communicating results by reports and presentations
 - d. Team design projects and competition
 - e. Reports and presentations on projects
- V. Computational Tools
 - a. Excel
 - i. Entering data, formatting worksheets
 - ii. Creating formulas, using functions
 - iii. Creating charts and plots
 - b. Introduction to programming using Matlab or VB
 - i. Variables and assignment
 - ii. Loop structures
 - iii. It-then-else structure
 - iv. Functions and subprograms
- VI. Experience with Selected Departments