BASIC INTEGRATED ENGINEERING
20-AEEM-211
Fall 2004

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Time: Monday, Wednesday and Friday, 10:00AM – 10:50AM
Room: 620 Swift
Text: Course Notes at: gtsl.ase.uc.edu/BIE
References:

Grading:
85% Projects
15% Quizzes

Office Hours: by appointment

Goals:
1. Introduce students to the solution of practical engineering problems with non-unique solutions.
2. Presentation of general design theory, elementary optimization methods and trade-off studies using examples based primarily on Physics I, II and Mechanics content.
3. Develop team and individual problem solving skills.
4. Develop technical writing and presentation skills.

Topics:
Creative Problem Solving - Brainstorming techniques (3 hrs)
Technical writing (3 hrs)
Oral Presentation Techniques (3 hr)
Individual/group oral presentations (6hr)
General theory of design (3 hrs)
Optimization, cost functions, constraints (4 hrs)
Tests and other grading periods (1 hrs)
Concurrent Engineering (2 hrs)
Laboratory/Interaction Periods (6 hrs)
Major Projects: Team and individual problem solving of diverse open-ended problems. Exercises taken from material taught in calculus, physics and mechanics courses, and taken from real-world and academic problems.

1. Wing Force Calculation Code Anticipated Due Date: 10/18/4
2. Wing Design Problem Anticipated Due Date: 11/12/4
3. Optimal Wing Truss Design Anticipated Due Date: 11/29/4

Expectations:

*Complete professionalism!*

a. Consistent time management - complete assignments on time or early.
b. Become a team player - contribute intensively to group efforts.
c. Contribute to classroom discussions.
d. Scholarly dedication - seek references and additional information, synthesize previously learned material, hold task related conversations.
e. Produce clear and precise presentations and written reports. (Electronically Generated – Word, PowerPoint, etc.)
f. Demonstrate a positive attitude.

Group Assignments:

1. **One** and only one assignment turned in for each group.
2. MAXIMUM **three** person groups.
3. Each person **contributes equally**.
4. Groups to be chosen by instructor.
5. Inverse of sum of inverses grading procedure.