

Senior Engineering Design and Professionalism Laboratory

Credit Hours: 2 (6 hours lab)

Spring Semester 2012

4:30 – 7:30 p.m., Monday, 4:30-7:30 p.m. Wednesdays (meeting time)

Room 102 Tureaud

Instructor: David H. B. D. D. 167 E. B. D. D. H. 570 0010

Course Description: Engineering principles used to complete the project set forth in the design outline submitted in BE 4290; design project completion

Prerequisite: BE 4290

Objectives:

- To become proficient with basic components of experimental design and testing
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- To effectively present the working prototype of your design to faculty, students, and the public through an oral presentation and a poster presentation
 - To work effectively in teams to submit a professional quality technical report to the Gunlogson Design Competition that describes your design and details the building and

Accreditation: The Accreditation Board of Engineering and Technology (ABET) has

approved the following engineering programs, including this one, as accredited

ABET Accredited Engineering Programs

The objectives listed below are mandated by ABET for all your basic and

- (a) an ability to apply knowledge of mathematics, science, and engineering
- (b) an ability to design and conduct experiments, as well as to analyze and interpret data
- (c) an ability to design a system, component, or process to meet desired needs
- (d) an ability to function on multidisciplinary teams
- (e) an ability to identify, formulate, and solve engineering problems
- (f) an understanding of professional and ethical responsibility
- (g) an ability to communicate effectively
- (h) the broad education necessary to understand the impact of engineering solutions in a global and societal context
- (i) a recognition of the need for an ability to engage in life-long learning
- (j) a knowledge of contemporary issues
- (k) an ability to use modern engineering tools necessary for engineering practice

Required Text: Engineering Design (4th Edition), by George Dieter

References:

- A Mechanical Design Process by David Tillman
- Creative Problem Solving and Engineering Design by Edward Lumsdaine, Monika Lumsdaine, and J. William Sheluff
- Fundamentals of Engineering Reference Manual, Michael Lindberg
- Fundamentals of Engineering Supplied Reference Handbook, National Council of Examiners for Engineering and Surveying
- Strategies for Engineering Communication by Susan Stevenson and Steve Whitmore

Grade Breakdown:

Homework (includes progress reports, design notebook entries, and presentation outlines)	20%
Final written report	10%
Final poster and presentation	35%
Individual grade (assigned by instructor in consultation with faculty advisor(s))	35%

Late homework assignments will receive 100% - 66.6% (1st day late), 100% - 50% (2nd day late), 100% - 33.3% (3rd day late), and 100% - 0% (4th day late or later). Assignments are due by 4:00 p.m. 40% if two days late, etc.).

Course grades will be determined on the following scale: A (90 - 100%), B (80 - 89.99%), C (70 - 79.99%), D (60 - 69.99%), F (<59.99%). Remember, if you are on the border between letter grades, rounding normally to the lower grade. Participating in class and following class rules (see below) may allow you the higher letter grade.

advisor(s) and me in keeping better track of your progress as a group. The progress report should be in memorandum format and will be addressed to me and your senior design advisors.

each group member must write a paragraph in which s/he details his/her work during the progress period. These should be attached to the progress report. Each group member should also

the memo. ONLY AFTER you have read every group member's explanation of their individual activities. IF YOU DISAGREE or take issue with what you and/or your group members have written, send your group members an e-mail and/or your advisor(s) and me. We will have a meeting with your group members and you, your advisor(s) and me. We will have a

grade (which counts toward your homework grade) AND an individual grade (which counts

EVERYONE'S SIGNATURES!!! Progress reports should be submitted to Angie in the front office by 4:00 pm of the day they're due.

This course is certified as a "Communication-Intensive Course" and meets all of the requirements outlined on the SAC VCE and approved syllabus, including the following:

Development of formal and informal assignments in written and oral communication. Emphasis on oral communication assignments in written and oral communication. Emphasis on oral communication. 40% of the final grade based on communication-related assignments. Oral assignments in written and oral communication. 40% of the final grade based on communication-related assignments.

Communicator" certification on LSU transcripts.

Final comments:

Once again, I will do everything I can to make each of you shine in this course! This is it, folks!!! Senior design is extremely important and can have a huge impact on what kind of job

Cheating and plagiarism will not be tolerated under any circumstances!

- Be respectful of yourself and each other (don't interrupt each other, listen to each other, seek to understand before being understood, and so on)

Being questions and comments to class or using dialogue about engineering design and professionalism will enrich your experiences in this course and will help your design project!

Good. Please, please consult me and your project advisor immediately.

important since we would be meeting as a whole on 1/11 in DE 4001.

Approximate schedule (subject to change!)

1/18 Going over the syllabus

1/25 Class

YOUR MATERIALS SHOULD BE ORDERED BY THIS POINT!!!

Progress report #1 due

1/27 EE ECE registration deadline #1 see www.louisiana.edu for details

2/1 Class

2/8 Oral presentations on design project progress

2/23 **EE Exam registration deadline #2**, go to www.ncees.org/ and follow the directions to register for the exam

2/29 Class
Progress report #2 due

3/7 Class

3/14 Class
YOUR DESIGN SHOULD BE IN PHYSICAL EXISTENCE AT THIS POINT.

Progress report #3 due

3/21 Oral presentations on design project progress

3/28 Oral presentations on design project progress

4/4 Class

4/11 **Spring Break!!!!**

4/14 **EE exam!!! Go get it!**

4/18 Poster Review

4/22 Final Presentation Review (Long Run)

4/25 Final Presentation Review (Long Run)

5/2 **Final design presentations**

TBD Final exam: **Final paper due**
Design notebook due