Course Number: MECH 4250  
Course Title: Comprehensive Design II  
Credit Hours: 2 (LEC 1, LAB 3)  
Prerequisites: MECH3040, 3050, 3140, 4240, INSY4240.  
Corequisites: None

Class Schedule  
Lec Monday 1 – 1:50, Lab Tuesday, Thursday 12:30 – 1:45, AE157

Instructor  
Dr. David Beale, Mechanical Engineering Dept., 354 Ross, 844-3336, dbeale@eng.auburn.edu  
Office Hours TR 11-12:30 a.m. and by appointment.

Teaching Assistant  
David Branscomb, ME Dept., M104 Wilmore or 115 Textile Bldg, 844-5462, brandsj@auburn.edu, Office Hours – After class.

Course Objectives  
This course is a continuation of MECH4240. Upon completion of this course, the student will be able to:
1. Design an industrially-relevant complex and integrated mechanical system and individual components (Program Outcome 4,6,8,9)
2. Apply the engineering design process in a rigorous manner, step-by-step from need to final design, working in a design team with individual functional responsibilities. (P.O. 6)
3. Effectively communicate the design and production process in a professional setting and using modern engineering design tools. (P.O.7,8)
4. Consider many important design issues – including safety, cost, manufacturability, environmental and ethical concerns (P.O. 9)

Course Outcomes  
In order to learn the course material, students will:
1. Identify need, develop design constraints and specifications for a real world, industry sponsored engineering project. (Course Objective 1)
2. Innovate, develop and communicate design concepts, and select the most promising for a design. (C.O. 2,3)
3. Use techniques, skills and modern engineering tools to communicate a detailed design for manufacture. (C.O. 2, 3)
4. Prepare and present a complete design – including analysis, dimensioned drawings, consideration of safety and manufacturability, parts list and cost analysis. (C.O. 2,3,4)
5. Work in groups, and producing and presenting a final and midterm project reports. (C.O. 2)
6. Construct, assemble and test a working prototype in accordance with engineering design drawings. (C.O. 1,4)
7. Update drawing and iterate on design as necessary to improve functionality. (C.O. 2)
Website
General information and course material can be found at:
http://www.enq.auburn.edu/users/bealedg/MECH4240-50/

Textbooks
None

Grading and Evaluation Procedures: See handout

Accessibility
The policy of Auburn University is to provide accessibility to its programs and activities, and reasonable accommodation for persons defined as having a disability under Section 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act of 1990. Students needing special accommodations should see the instructor as soon as possible, or contact the Students with Disabilities Program office at (334) 844-5943 (Voice/TT).

Academic Honesty:
All portions of the Auburn University Student Academic Honesty Code, as found in the Tiger Cub and defined in the SGA Code of Laws, Title XII, will apply in this class.

Grading Scale:
Greater than or equal 90% A
Greater than or equal 80%, less than 90% B
Greater than or equal 70%, less than 80% C
Greater than or equal 60%, less than 70% D
Less than 60% F

Attendance Policy Points will be taken away for unexcused absences. Students will be allowed to make-up work due to excused absences (illness, death in family, court appearance, etc.) with appropriate documentation (written doctor’s excuse, court papers, etc.).

(Tentative) Course Calendar. See Handout or Webpage
MECHANICAL ENGINEERING DEPARTMENT
BACHELOR OF MECHANICAL ENGINEERING PROGRAM

HOMEWORK PRESENTATION STANDARD

1. All assignments are to be submitted on single sides of clean 8.5 by 11 in. paper with clean edges. Multiple pages will be fastened by a single staple in the upper left corner. If the work includes plots and/or figures, then these must either be drawn on engineering paper or other suitable graph paper, or be computer-generated.

2. All marks and characters will be clear, neat, and legible, and the ink or lead used will provide for an easily legible contrast.

3. Each page will be marked:
   a. in the upper left corner:
      i. Name
      ii. Course and Section number (where applicable)
      iii. Due Date
   b. in the upper right corner:
      i. Page x of Xmax

4. Each exercise will note:
   a. Source of exercise (text problem number or other)
   b. Statement of the exercise in the student's own words (reproduction of the assignment statement is NOT acceptable)
   c. Statement of goals of exercise (what must be found)
   d. Statement of methods and assumptions used to solve exercise
   e. Statement of solution process (calculation, derivation, etc.)
   f. Statement of results (final answer suitably highlighted)
   g. All numerical values must be stated with appropriate units, without exception
CHAPTER 1200 - Definition

1200.1 This act shall be known as the Student Academic Honesty Code. The Student Academic Honesty Code applies to all students taking classes at Auburn University. Students in either the College of Veterinary Medicine or the School of Pharmacy, while taking classes in these schools, shall be subject to honesty codes published and distributed within each school. The following regulations are designed to support the interests of Auburn University, its students and faculty, in maintaining the honesty and integrity essential to and inherent in an academic institution.

CHAPTER 1201 - Violations

1201.1 Violations of the Student Academic Honesty Code are:

1. the possession, receipt, or use of any material or assistance not authorized in the preparation of any essay, laboratory report, examination, or class assignment, to be submitted for credit as a part of a course or to be submitted in fulfillment of a university requirement. The possession, receipt, or use of unauthorized material while an exam or quiz is in progress, or cheating, will be a violation of the Code;
2. knowingly giving assistance to another person in such preparation;
3. selling, giving, lending, or otherwise furnishing to any other person any material which can be shown to contain the questions or answers to any examination scheduled to be given at some subsequent date in any course of study, excluding questions and answers from tests previously administered and returned to a student by the instructor;
4. the submission of themes, essays, term papers, design projects, theses and dissertations, similar requirements or parts thereof that are not the work of the student submitting them. In the case of a graduate thesis or dissertation, submission is defined as the time at which the first complete draft of such is submitted to the major professor for review. When direct quotations are used, they must be indicated, and when the ideas of another are incorporated into a paper, they must be appropriately acknowledged. Plagiarism is a violation. In starkest terms, plagiarism is stealing - using the words or ideas of another as if they were one’s own. For example, if another person’s complete sentence, syntax, key words, or the specific or unique ideas and information are used, one must give that person credit through proper documentation or recognition, as through the use of footnotes;
5. altering or attempting to alter an assigned grade on any official Auburn University record. This violation may also be subject to review and action by the University Discipline Committee;
6. an instructor may delineate in advance and in writing other actions he or she considers a violation of the Code. For example, the teacher may consider dishonest or unethical the submission of papers substantially the same in content for credit in more than one course, unless specific permission has been given in advance. Actions so delineated must be reasonable and in the spirit of the Student Academic Honesty Code.
7. altering or misusing a document (e.g., university forms, infirmary or doctor’s excuse) for academic purposes. Associated violations may be referred by the Associate Provost for additional review and action by the University Discipline Committee.
8. knowingly submitting a paper, report, examination, or any class assignment which has been altered or corrected, in part or in whole, for reevaluation or re-grading without the consent of the instructor.
9. serving as or enlisting the assistance of another as a substitute in the taking of examinations.