

ME 495B Syllabus

Instructor: Alan Weston

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I. Department, number, and title of course: ME 495b Mechanical Engineering Design

II. Designation as a 'Required' or 'Elective' course: Required Course

III. Course (catalog) description:

Development of the final design, hardware implementation of the final design (if the project warrants), documentation of all stages of design, project coordination, documentation of the testing and evaluating of the design, cost estimating, scheduling, and written, oral and poster presentation of the final design.

IV. Prerequisite(s)

ME 495a

V. Textbook(s) and/or other required material

Saluki Engineering Company Policy and Procedures Manual Version 6.2,
KM Purcell, I Margon, ME Blankenship, AJ Weston, F Harackiewicz, available on
Blackboard, January 2009

VI. Course objectives

This course is part B of a two semester sequence. In the first semester students are introduced to engineering design practice through the use of group projects involving a system, component or process to meet the desired needs of a customer. Focus is on development of creativity, communication skills, production of working drawings taking into consideration production processes and constraints such as economic factors, safety, reliability and social impact. In the second semester, designs are finalized and the end results are deliverables in the form of Design Reports, Oral Design Presentations and Poster Presentations.

VII. Topics covered

1. **Welcome Back** – Reminder of management tools to use, notebooks & memos
2. **Design Reviews** – Description of design review requirements & scheduling
3. **Progress Reports** – Requirements for mid-semester written and oral progress reports
4. **Progress Orals** – In-Class Oral Progress Report presentations
5. **Poster Presentation** – Requirements, Layout and software use for Poster Presentations
6. **Design Reports** – Format, content and all requirements related to submission of Final Design Reports and Design Report Oral Presentations
7. **Finishing Up** – End of semester schedule, requirements for Student Course Evaluations, Team Evaluation and End of Project Memos.
8. **Dean's Address** – The Dean addresses the class on matters of life after graduation, what to expect from first and second jobs, etc.
9. **Oral Design Report Presentations** –In-Class Oral Design Report Presentations.

VIII. Class/laboratory schedule, i.e., number of sessions each week and duration of each session

Two 100 minute sessions per week are reserved, but usually two 50 minute sessions are used.

IX. Contribution of Homework, Quizzes, Tests, Laboratory Reports, or Research Papers

Course content does not have quizzes nor tests. Laboratory experiments are conducted for many build projects and are reported in standard Laboratory Report format in notebooks and in appendices of Design Report.

X. Contribution of course to meeting the professional component. Describe how the course devotes adequate attention and time to the professional component, which includes mathematics and basic sciences, engineering topics, and general education.

This is an applied design course, which addresses real-world design challenges. The course is taught in the format of staff meetings as all students are members of the Saluki Engineering Company. All designs relate to engineering problem solving and thus require the basic sciences that at the core of all levels of the curriculum.

Emergency Procedures. Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT's website at www.bert.siu.edu, Department of Safety's website www.dps.siu.edu (disaster drop down) and in Emergency Response Guideline pamphlet. Know how to respond to each type of emergency. Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency. The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.