Contact Information

Professor: Dr. William G. Tanner, Jr.
Office: Davidson 119
Office Phone: 254.295.4645
E-mail: btaner@umhb.edu
Office Hours: TBA
Other times by appointment

Description of the Course

Course Name, Number and Section: Engineering Design II: Engineering for Humanity, ENGR 3260.01

Term: Spring 2018

Catalog Description:
This course will provide exposure to, and practice with, the engineering design process as practiced by professional engineers. Particular interest will be given to Human-centered Design, i.e. “believing that all problems, even the seemingly intractable ones like... clean water, are solvable.” Students will work in teams to study a mechanism necessary to fulfill specific requirements for human-centered design requested by the communities and provide a solution to be created in the field. Topics covered will include team building, brainstorming techniques, project management, design iteration, design optimization, ethical issues in engineering design, and reflection on career goals. Particular emphasis will be given to the communication of the design team’s results. Prerequisites: ENGR 3160. Lab Fee.

Time/Location Course Meets: 2:00 – 3:50 pm TR Room 101/116 DAV

Course Objectives:
The engineering design process is a formal process with specific steps that enables an engineer to arrive at an optimized design in a methodical way. In this course, students will learn the design process, study best practices for working in a group, engage in project management, practice the communication of engineering data, and get hands-on experience with design and fabrication tools. This course will build skills necessary for professional engineering practice and future design courses.
Accreditation Board for Engineering & Technology (ABET) Learning Outcomes addressed by this course:

Relationship of Course to Engineering Science Program Learning Outcomes: A successful student will strongly contribute to the CSEP Learning Outcomes and this course will facilitate the student to:

• be able to apply knowledge of mathematics, science, and engineering;
• be able to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability;
• be able to communicate effectively;
• be able to function on multidisciplinary teams;
• be knowledgeable of contemporary issues;
• be able to use techniques, skills, and modern engineering tools necessary for engineering practice.

Credit Hour(s): This is a traditional, 1-credit hour course. A credit hour earned in this course requires at least fifteen (15) contact hours, as well as a minimum of thirty (30) hours of student work outside the classroom.

Textbook:

Academic Honesty:
The University of Mary Hardin-Baylor policy on academic integrity applies to all courses. UMHB expects the highest standards of academic integrity among all members of the campus community. All acts of plagiarism or violations of academic honesty are considered serious offenses and may result in the failure of the assignment or the course.

Special Accommodations:
If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your professor and the Accommodation & Student Assistance Program office in the Robert & Linda Black Center for Counseling, Testing & Health Services, Mabee Student Center, Suite 310, as early as possible in the term.

Assignments and Grading:
Assignments should include everything listed below. Participation and peer evaluation will be incorporated into the grades in some assignments. Course Requirements follow, along with how each assignment is used and weighted to determine a grade.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Problem Sets and Quizzes (weighted equally)</td>
<td>20%</td>
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<tr>
<td>Two Section Examinations (worth 15% each)</td>
<td>30%</td>
</tr>
<tr>
<td>Mid-Semester Design Review</td>
<td>10%</td>
</tr>
<tr>
<td>Design Presentation</td>
<td>20%</td>
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Design Report 20%

Course Requirements:
1. Work assignments as they are given. Quizzes over the chapter readings and homework will be given periodically.
2. Actively participate in your assigned design team.
3. Give an equitable amount of effort in the progress of your product design.
4. Participate in the presentation of the results of the design.
5. Evaluate the performance of your team members periodically during the semester.

Grade Scale:
A = 90 to 100
B = 80 to 89
C = 70 to 79
D = 60 to 69
F = < 60

Please note grade point cut-off points. Always monitor your current performance level via MyCourses.

Late Work Policy:
Makeup examinations and quizzes will be given only under extenuating circumstances (major illness, death in the family, etc.). Students desiring a Makeup examination or quiz must make arrangements with the professor. A Makeup examination must be scheduled before the next scheduled examination. If a student fails to take a Makeup examination before the next scheduled examination, that student will receive a zero for the examination missed.

Some assignments may be eligible to be turned in late at a discounted grade. Late assignments will be discounted at the rate of one letter grade per day. After four days, the assignment will not be accepted. All assignments are due at the beginning of the class session. If they are turned in after the beginning of the class session, the score will be discounted by one letter grade.

Assignments missed due to university approved absences or specific individually documented instances (note from a doctor in the case of illness or absences due to legal or civil proceedings) are eligible for late submission. Professors/instructors should be notified prior to a university approved absence.

Academic Decorum:
The learning process involves an exchange of ideas and an exploration of concepts between faculty and students and a certain level of decorum facilitates this process.

Supportive actions include:
(1) Coming to class prepared including reading all assignments.
(2) Being attentive and responsive in class.
(3) Respecting the course instructor and fellow students (opinions and ideas).
(4) Contributing to the class by making topic-specific comments.
(5) Offering critiques and alternative ideas in a non-condescending manner.
(6) Providing a fair share of work to group projects and team activities.

Examples of disruptive behaviors to avoid include:
(1) Talking, sleeping, or otherwise distracting members of the class.
(2) Using electronic devices for personal use.
(3) Exhibiting argumentative or attention-seeking behavior.
(4) Failing to show respect or act with civility.

**Attendance Policy:**
Class attendance is viewed by the instructor as critically important and imperative to success in this course are expected to be present at all class meetings. If you are absent, you have a responsibility to submit work that is due for that class period by a) sending it with another person in class, or b) turning it in personally to the professor prior to the due date. The assignment must be posted as received no later than the beginning of the class time on the date it is due. Additionally, you have a responsibility to inquire of other students in class for notes, materials, and assignments from classes you miss.

**Schedule for class to follow.**