Applications of Engineering Mathematics
Spring Semester 2006
M, W
3:00 - 4:15 p.m.
Room EGC 207

Instructor: André Butler, Assistant Professor
Department of Biomedical and Environmental Engineering

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Textbooks and Supplies:


Web Site: http://faculty.mercer.edu/butler_aj/egr252.htm


Course Objectives: Upon successful completion of this course, you should be able to do the following:

1. Use probability and statistics particularly in the areas of
   a. Representation of data
   b. Statistical inference
   c. Design of experiments
   d. Regression analysis
2. Perform basic matrix operations.
3. Use software programs such as Excel to perform analyses and matrix operations.

Prerequisites: MAT 192, EGR 192L
Grading:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>10%</td>
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<tr>
<td>Exam 1</td>
<td>15%</td>
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<tr>
<td>Exam 2</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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<tr>
<td>Quizzes</td>
<td>10%</td>
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<tr>
<td>Exercises</td>
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Course Standards:

1. Homework problems will be assigned daily. **Assignments are due at the beginning of the class period on the date due.** In an exceptional circumstance you may petition to hand in an assignment late. If granted, the grade will be reduced one letter grade per day late. I do not require homework to be an individual effort, but each individual is required to submit his or her own homework. Also, you should be aware that relying on another’s work or simply copying another’s solution is a poor way to prepare for this course. Working on a problem for the first time on a quiz or exam usually results in very poor grades.

   Some assignments will require the use of a computer. Many are much easier on the computer than by hand. Engineering paper must be used for homework problems that are done by hand. Final solutions and/or important intermediate steps should be underlined or boxed with straight lines. The problems should be stated at the top of the page and notations as to the solution strategy noted if necessary for clarification. Similar formats should be followed for computer work (problem statement at the top, final solutions and important intermediate steps underlined, outlined, or in bold print.) Homework assignments that are not of acceptable quality (neat, complete, readable, etc.) will be returned for revision and late penalties will apply.

2. **Midterm exams** will be closed-book, closed-notes. **No make-up exams will be given.** The final exam will be open-book, closed-notes.

3. There will be several unscheduled **Quizzes** throughout the semester. Each quiz will last 10-15 minutes.

4. Several lessons during the semester are identified as **Exercises.** These will be worked in groups of two or three. Your submission of the exercise signifies that you have complied with the Mercer Honor Code and the work on the exercise represents **solely** the efforts of your group. Detailed requirements will be given with each exercise, but merely submitting several pages of numbers will in no case be sufficient – in every case, you should have sufficient explanatory material to define for the reader your objective, how you went about your analysis, and your conclusions.

5. Students are expected to attend all classes. Although failure to attend class in itself will not adversely affect your final grade, good attendance, class participation, and a good homework record will be looked upon favorably.

6. Reading assignments are to be completed by the date shown on the schedule. Additional or supplemental readings will be assigned as needed. The student is accountable for the material in the readings regardless of their inclusion in the lectures.

7. Please turn off cell phones and pagers before entering the classroom.

8. The **honor code** provisions as outlined in the Bulletin and in the student handbook, The Lair, will be assumed for everyone. It should be clear from this document and class discussion which assignments can be collaborative and which ones must be individual. When in doubt, please ask to avoid potentially embarrassing situations. Plagiarism is a violation of the honor code and is prohibited.
9. This syllabus is subject to change. Changes will be announced in class and will appear on the class web site.

**Important Additional Information:**

Students with a documented disability should inform the instructor at the close of the first class meeting. The instructor will refer you to the office of Student Support Services (SSS) for consultation regarding evaluation, documentation of your disability, and recommendations for accommodation, if needed. Students will receive from SSS the *Faculty Accommodation Form*. On this form SSS will identify reasonable accommodations for this class. The form must be given to the course instructor for signature and then returned to SSS.

To take full advantage of disability services, it is recommended that students contact the Office of Student Support Services immediately. The office is located on the third floor of the Connell Student Center.

**Electronic Communication:**

Electronic communication is an important adjunct to face-to-face communication, including from professor to students, students to professor, and students to students. You must have regular access to your email. If you do not have an active *Mercer email* address on the first day of class, please secure one.

File-naming conventions for electronically submitted documents will be prescribed in order to avoid needless confusion. Set your email so as to assure that you get a time-and-date confirmation of any assignments submitted electronically. You are responsible for using the correct mailing address.