# MATH 302 - Sections ***
## Advanced Engineering Mathematics
## Syllabus-Fall 2008

**Professor:** ************
**Office:** *** ***
**Office Phone:** *******
**Email:** ******************
**Office Hours:** ******
**Texts:** *Calculus: Multivariable* , by Blank and Kranz
      *Linear Algebra*, by Leon
**Course Meeting:** Daily, ******

**Course Description:** In this course, you will learn the mathematical foundations necessary in the study of engineering. This will include such areas as calculus of several variables and linear algebra. Topics include: describing and analyzing motion in 3-space; understanding surfaces and hypersurfaces in $n$-space for $n \geq 3$; vector field theory; solving systems of linear equations; and numerical methods for linear systems.

**Course Web Page:** There is a course web page at http://www.math.byu.edu/~math302 for all sections of Math 302. It contains most of the information about and material for this course, such as: how to contact your professor; the course schedule; homework information; lesson outlines; and preparatory test information. You should check this site regularly. Taped lectures and power point presentations are also available. You can access these under LECTURES ONLINE. The username and password to access the taped lectures are both *math302*. A schedule of times that the Math 302 TA's will be in the Math Lab can be found under CONTACT INFORMATION.

**Lecture Schedule:** A course schedule listing the specific topics that will be covered on each day is available at the course web page (click on LECTURE SCHEDULE).

**Outcome Statements:** A list of outcome statements for each lecture is available at the course web page (go to OUTCOME STATEMENTS, then click on the specific lecture topic.)

**Homework:** Homework will be assigned most class days. A list of the homework is available at the course web page (click on HOMEWORK INFORMATION). You are encouraged to work with other students in the class by discussing these problems. However, the assignment that you hand in should be your own work; i.e., when you write up a problem you should not look at anyone else's work (copying does constitute cheating!). These assignments are generally due in class two class days after being assigned. Each assignment will be graded out of 30 points. Work must be neat and sequentially ordered in order to receive credit. Late work will be accepted, but only for 50% of earned credit. The deadline for late work is one week following the midterm exam that covers relevant material. In the case of the last midterm exam the deadline is the last day of classes. A review sheet for each exam will provide an opportunity to earn a limited amount of extra homework credit. These review sheets are due that last day of the corresponding testing period.

**Tests:** There will be a Preparatory Exam, 4 Midterm Exams, and the Final Exam. **A passing score of 70% on the Preparatory Exam is a prerequisite for the course and will count the same as a midterm towards your grade**. Material covered on the Preparatory Exam include topics from Algebra and Trigonometry, Calculus I, and Calculus II. Detailed information about the pretest can be found at http://www.math.byu.edu/~math302/pretest/. A student scoring less than 70% is not adequately prepared for this course. This assessment is based on a large body of data collected from past semesters. In the case that a student fails the pretest, that student needs to address deficiencies before proceeding with Math 302. The student should arrange to meet with his/her instructor to discuss possible ways in which this may be accomplished. We desire that all of our students have a positive and productive experience in Math 302. However, Math 302 is also a challenging course and in order for this to happen it is essential that each student comes into the course adequately prepared.

**You must receive your exam from the testing center before 5:00 p.m. on the last day for Exams 1 through 4.** You will be allowed to work on the exam until closing time. The schedule for the course exams is:

| Test | Location | Dates |
|------|----------|-------|
| Preparatory Exam | Testing center | through Mon. Sept. 8 |
| Exam 1 | Testing Center | Fri. Sept. 26 - Tues. Sept. 30 (Check in by 5:00 p.m.) |
| Exam 2 | Testing Center | Fri. Oct. 17 - Tues. Oct. 21 (Check in by 5:00 p.m.) |
| Exam 3 | Testing Center | Fri. Nov. 14 - Tues. Nov. 18 (Check in by 5:00 p.m.) |
| Exam 4 | Testing Center | Fri. Dec. 5 - Tues. Dec. 9(Check in by 5:00 p.m.) |
| Final Exam | Testing center | Mon. Dec. 15 - Fri. Dec. 19 |

The final exam will be comprehensive. **The use of calculators on the exams is prohibited.**

**Make-up Exams:** In the event that you do not pass one of the first three midterm exams with a score of 70% or higher, there is an opportunity for you to attempt a second exam that may allow you to raise your exam score up to 70% (but not higher). In order to take advantage of this opportunity, you will need your instructors permission. Minimal requirements of eligibility for retaking an exam include

1. Consultation with your instructor within two class period after exams have been passed back to the class.

2. Completion of the regular exam.

3. Completion of all homework on material covered by the test.

4. Attendance at two special review sessions with the graduate TA's.

This will require initiative and a significant investment on your part; therefore, it will definitely be better for you not to score lower than 70% in the first place. **Please note that there is not a make-up exam for Exam 4.**

**Grading:** The assessment items will determine your final grade in the following way:

| | |
|---|---|
| Homework | 25% |
| Preparatory | 10% |
| Exams 1 - 4 | 40% total |
| Final Exam | 25% |
| (Extra Credit | 2%) |

Letter grades will be assigned as follows:

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | B+ | = 89.9-87.0%, | C+ | = 79.9-77.0%, | D+ | = 69.9-67.0%, | | |
| A | = 100-93.0% | B | = 86.9-83.0%, | C | = 76.9-73.0%, | D | = 66.9-63%, | E | = 59.9-0%. |
| A– | = 92.9-90.0% | B– | = 82.9-80.0%, | C– | = 72.9-70.0%, | D– | = 62.9-60%, | | |

**Presentations:** Faculty from the College of Engineering and from the Physics Department will give four presentations during the semester. These presentations will demonstrate how the mathematics you are learning can be used to solve real problems in engineering and science. Attendance at each presentation will be counted as one homework assignment.

**Miscellaneous:** Preventing Sexual Harassment: BYU's policy against sexual harassment extends not only to employees of the university but to students as well. If you encounter sexual harassment, gender-based discrimination, or other inappropriate behavior, please talk to your professor, contact the Equal Employment Office at 422-5895 or 367-5689, or contact the Honor Code Office at 422-2847.

Students with Disabilities: BYU is committed to providing reasonable accommodation to qualified persons with disabilities. If you have any disability that may adversely affect your success in this course, please contact the University Accessibility Center at 422-2767. Services deemed appropriate will be coordinated with the student and instructor by that office.

Children in the Classroom: The study of mathematics requires a degree of concentration and focus that is exceptional. Having small children in class is often a distraction that degrades the educational experience for the whole class. Please make other arrangements for child care rather than bringing children to class with you. If there are extenuating circumstances, please talk with your instructor in advance.