

Math 122

Calculus II

Fall 2008

Who: Jim Bentley Office: 227 AHN (ext. 8621)
When: MWF 8:00–9:20
Where: AHN 216
Text: Hughes-Hallett, *et. al.*, *Single and Multivariable Calculus*, 4th edition.
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PREREQUISITE: A grade of 1.7 or higher in Math 121 (2.7 or higher is strongly recommended).

GOALS: Math 122, *Calculus II*, is the second course in a sequence of courses that will introduce you to an important set of tools used by scientists and applied mathematicians. Emphasis of the course will be on both the application of the techniques of calculus and an understanding of the underlying theory that supports them. Whenever possible we will use real-world examples in applications of the topics. Mastery of the material presented in class will prepare you for your next calculus class or for applications of calculus within your other coursework. Math 122 will also help:

- improve your ability to think abstractly, logically, and analytically
- improve your problem solving ability
- improve your ability to communicate mathematical ideas and results to your peers in verbal and written form

TOPICS: We will cover most of the sections from chapters 7, 8, 12, 16, and 13. You will be exposed to techniques of integration, areas and volumes of rotation, density and center of mass, functions and graphs of multiple variables, multiple integration, vectors, and polar, cylindrical, and spherical coordinates.

GRADING:

- 30% Homework/Quizzes/Activities: Work will not be accepted for credit once grading of the assignment has begun. If you are unable to turn in your solutions yourself, either have a friend turn them in for you during class, place them in the grader's box (under the counter across from the xerox machine in the AHN 223 copy center), or *hand* them to me. Do *NOT* place them in my box or under my door — the graders do not look in these places.

Since answers for some of the problems are given in the back of the book, to gain credit you must support *your* answers by showing evidence of *your* thought process—*your* reasoning. Use one side of the page, write legibly (in pencil unless you are perfect and never need to erase), and staple your pages together. Please be sure to order your answers sequentially and place them in a single column. In short, put yourself in the grader's place and think about how you can make their life easier.

Some of what we will do in this class will take more time than is available during an exam. Since your time is essentially “unlimited” outside of the classroom (yes, I know you have other classes), homework problems are a perfect place to see what you can do with problems which are less contrived than would be appropriate for a test. Homework is thus an important part of the learning process in this course. Please feel free to work together, but *be sure to turn in your own version of the solution*. If you choose to get help from others (including faculty), be sure that you fully understand whatever information they have given you. If you choose not to do the homework, or receive failing grades for those assignments you do turn in, the highest overall course score you can achieve is a 70% (or a C-). Historically, those individuals who did not earn a passing grade on their homework also earned low scores on their exams and thus failed the course. Please take the homework assignments seriously... I will.

Quizzes are a means of making sure that you remain current with the material. They also provide me with information beyond the homework as to how well material is being absorbed. And, yes they do encourage being present in class. No make-up quizzes will be given.

- 45% Three midterms (Fri. Sept. 26, Wed. Oct. 22, and Wed. Nov. 19): Make up exams will only be given if you let the instructor know *in advance* that you will not be able to make the scheduled test. You must possess a reasonable excuse for your absence.

Midterms are intended to encourage you to review the material presented in class and in the text. They also test *your* knowledge of the key topics and *your* ability to combine these topics in a creative manner. If you have not taken an active part in producing solutions to homework problems, it will become apparent during the exams. Remember, time is limited, so focus on the important ideas.

- 25% Final (Sat., Dec. 13, 3:00 PM. This date was determined by the registrar and cannot be changed.): The final will be 50% cumulative and 50% material from the last quarter of the class.

OFFICE HOURS: MWF 9:30–12:00 and TTh by appointment. These are times when I will be in, or near (*eg.* in the computer lab or near the xerox machine) my office. I'll be around at other times, so if my door is open and nobody else is getting help, knock and then come on in. If I'm busy I'll ask you to come back at another time. Don't be offended, just come back later.

ATTENDANCE: You are encouraged to attend all class sessions. Remember that mathematics builds upon itself. You may not realize that the material you missed by being absent for a day is really important until knowledge of it is assumed a couple of weeks later. If you must miss a class, be sure to get notes from a classmate and fully understand the material before the next class meeting. You should make a habit of reading the text. You paid a lot for it, so you might as well get as much information as you can from it. Along those lines, the consensus (amongst students) is that

you will spend at least two hours reading and doing homework for every hour we share in class. Of course, if you want to do well you'll probably spend a bit more.

The last day to drop or change your grade status is Friday, October 10. Fall Break is Saturday, October 4 through Tuesday, October 7. Thanksgiving Break is Wednesday, November 26 through Sunday, November 30.

ACADEMIC HONESTY: Please familiarize yourself with the University's policy on academic honesty (see the Catalog). You are encouraged to work together when appropriate. However, it is expected that the work you turn in on individual assignments and exams will be yours alone. **If there is evidence that any work you turn in is not your own, you will be subject to University disciplinary action for plagiarism.**

TUTORS: The Math Department provides tutors to aid you in your studies. They are available in the afternoons Monday through Thursday and in the evenings Sunday through Thursday. The student tutors are there to help you with your homework or answer questions on the material. They are *not* supposed to do your homework for you.

As a courtesy to the tutors, please remember that they are students and that they may not be comfortable with every topic that is covered in our class. If a tutor says that they are not sure about something, don't press them for more information, ask someone else. Also be aware that they are probably going to be helping a number of people at the same time. Be respectful of others and wait your turn.

The tutoring sessions are a great place to work together with your classmates. You can help each other, and if you have questions that no one in the group can answer, then the tutors are available. If the tutoring sessions and my office hours are not sufficient for your needs, consider requesting a tutor through Student Services. These tutors are also free of charge, but you must fill out the appropriate paperwork. Student Services tutors are in short supply, so if you feel you might need one make the request early.