

MATH 1720.004
CALCULUS II
SPRING 2013

Scientia Imperii Decus et Tutamen ¹

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¹Taken from the coat of arms of Imperial College London.

SPRING 2013 COURSE: MATH 1720.004, CALCULUS II.

PREREQUISITES: MATH 1710.

CLASS MEETS: Monday, Wednesday, 6:30 p.m. - 7:50 p.m., LANG 316.

FINAL EXAM DATE AND TIME: Because this is an evening class, the final is scheduled for Monday, May 6, 2013 in LANG 316, 6:30 p.m. - 8:30 p.m.

TEXT: William Briggs and Lyle Cochran, Calculus, Addison-Wesley, Boston, 2010, ISBN 666978-0-321-33611-8.

INSTRUCTOR: Robert R. Kallman, 315 GAB [office], 940-565-3329 [office telephone], 940-565-4805 [fax], kallman@unt.edu [e-mail]

OFFICE HOURS: Monday, Wednesday, 3:30 p.m. - 5:00 p.m. and before and after class

ATTENDANCE POLICY: Mandatory. Specifically for TAMS students: if you are absent for any reason, you are required to file an absence report with Dr. Fleming of the TAMS Academic Office.

ELECTRONIC DEVICES: No electronic devices of any sort are to be on let alone used during the class. Repeated flouting of this will result in a grade penalty.

HOMEWORK: Homework will be assigned and some designated subset of it will be graded. The designated homework assigned on Monday and Wednesday of one week will be due at the beginning of class on the Wednesday of the following week. Late homeworks will not be accepted under any circumstances. Each homework problem will receive a grade of 0, 1, or 2 points. Failure to turn in a homework set on time will result in a grade of -1 for that homework set.

GRADING POLICY: Grades will be based on the total number of points accrued from the assigned graded homeworks, from two or three in class one hour examinations (5 problems plus 1 bonus question), given circa in early March and middle of April and perhaps early May, and from an in class 80 - 120 minute final (8 problems plus 1 bonus question). The number of points per test and final problem will normally be 10. There is no excuse for missing a test and no makeup tests will be given under any circumstances. A student missing a test will receive a grade of -1 on that test. If a student is unavoidably absent

from a test and makes arrangements with the instructor well before the test date, then the grade assigned to the missing test will be prorated by the student's performance on the final examination minus 10 points. It is difficult a priori to determine the precise break points for the final grades. However, the golden rule in determining the final assigned grade is that if the number of points earned by person A is \geq to the number of points earned by person B, then person A has a grade which is \geq to the grade of person B. The only possible exception is that you must take the final examination and receive a passing grade on the final in order to get a grade greater than F.

TOPICS: The topics to be covered can be found in most of Chapter 7.1 - 7.6, 8.1 - 8.4, 8.7 - 8.8, 9.1 - 9.6, 10.1 - 10.4, and 11.1 - 11.4. It is a rather ambitious goal to cover these topics in some depth. This will require considerable work on the part of the students and the instructor. Some supplementary notes will be handed out.

APPROXIMATE DETAILED ITINERARY: The following is a first attempt, very rough approximation to what is scheduled for each class day. This will be dynamically re-configured as the semester progresses since it is of course impossible to make such a schedule with hard-and-fast rules.

Monday, January 14, 2013: Introduction to class procedures and condensed recap of 1710.

Wednesday, January 16, 2013: Finish condensed recap of 1710 and cover section 7.1.

Monday, January 21, 2013: Cover 7.2.

Wednesday, January 23, 2013: Cover 7.3. Pick up 7.1 homework.

Monday, January 28, 2013: Cover 7.4.

Wednesday, January 30, 2013: Cover 7.5. Pick up 7.2 and 7.3 homework.

Monday, February 4, 2013: Cover 7.6.

Wednesday, February 6, 2013: Cover 8.1. Pick up 7.4 and 7.5 homework

Monday, February 11, 2013: Cover 8.2.

Wednesday, February 13, 2013: Cover 8.3. Pick up 7.6 and 8.1 homework.

Monday, February 18, 2013: Cover 8.4.

Wednesday, February 20, 2013: Pick up up home work for 8.2 and 8.3. Test covering 7.1 - 7.7 and 8.1.

Monday, February 25, 2013: Return test. Cover 8.7.

Wednesday, February 27, 2013: Cover 8.8. Pick up homework for 8.4.

Monday, March 4, 2013: Cover 9.1.

Wednesday, March 6, 2013: Cover 9.2. Pick up homework for 8.7 and 8.8.

Monday, March 11, 2013: Spring Break.

Wednesday, March 13, 2013: Spring Break.

Monday, March 18, 2013: Lectures on the Taylor expansion, independent of text.

Wednesday, March 20, 2012: Applications of Taylor expansion, independent of text. Essentially cover 10.1. Pick up homework for 9.1 and 9.2.

Monday, March 25, 2013: Cover 9.3.

Wednesday, March 27, 2013: Cover 9.4. Pick up homework for Taylor expansion and 10.1.

Monday, April 1, 2013: Cover 9.5.

Wednesday, April 3, 2013: Test covering 8.2 - 8.4, 8.7, 8.8, 9.1, 9.2, 10.1 and Taylor expansion. Pick up homework for 9.3 and 9.4.

Monday, April 8, 2013: Return test. Cover 9.6.

Wednesday, April 10, 2013: Cover 10.2. Pick up homework for 9.5.

Monday, April 15, 2013: Cover 10.3.

Wednesday, April 17, 2013: Cover 10.4. Pick up homework for 9.6 and 10.2.

Monday, April 22, 2013: Cover 10.5.

Wednesday, April 24, 2013: Cover 11.1 and 11.2. Pick up homework for 10.3 and 10.4.

Monday, April 29, 2013: Review. Dead week.

Wednesday, May 1, 2013: Review. Dead week. Pick up homework for 10.5, 11.1 and 11.2.

Monday, May 6, 2013: Comprehensive two hour final, 6:30 p.m. - 8:30 p.m.

ASK QUESTIONS in class so that we may all benefit. If you need help, it is your responsibility to seek me out. See me during my office hours. Empirical evidence suggests that there is a strong correlation between the amount of work done by the student and his/her final grade.

STUDENTS WITH DISABILITIES: It is the responsibility of students with certified disabilities to provide the instructor with appropriate documentation from the Dean of Students Office.

STUDENT BEHAVIOR IN THE CLASSROOM: The Powers That Be have strongly suggested that students be given the following statement:

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Center for Student Rights and Responsibilities to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at www.unt.edu/csrr

In other words, cause trouble in the classroom and you will probably be cast into the Darkness and sent to the KGB.

How to Study for This Class

- Attend every class.
- Pay attention in class, take careful notes, and ask questions if needed.
- The evening of every class go over your classroom notes, list topics on which you have questions or need clarification, read the relevant section of the textbook, do the assigned homework to be graded, look over the additional homeworks to verify that you understand how to do them and make note of those additional homeworks that you do not understand to ask about them during the next class. It is important that you put a great deal of effort into the homework, both those to be turned in and those that are less formally assigned. One becomes adroit at any human activity - e.g., hitting a fast ball, throwing a slider, making foul shots or jump shots, or driving off a tee - only with a great deal of practice. The same applies to calculus.
- Do not waste your time memorizing endless lists of derivatives and antiderivatives. This in fact is counterproductive. Instead, know a few basic computational techniques (e.g., product rule for differentiation, chain rule for differentiation, $\sin' = \cos$, etc.), and try to understand the big picture and concepts involved in problem solving. All of the problems encountered in this class should be first approached by asking oneself what is a reasonable way to proceed. Then given the proper path or direction, you can then solve the problems by small, logical steps that inevitably lead one to the final solution.

Check out www.interactmath.com:

- (1) Click Enter at the center top of the page;
- (2) Click the drop-down menu and select Briggs/Cochran: Calculus and hit Submit;
- (3) The TOC for the textbook will pop up.

Students can navigate through the problems available. All of the problems on this site are algorithmically generated copies of problems from the textbook. Most of the problems have some of the help features that are available in MyMathLab.