# Math 2263,     Multivariable Calculus,
## Spring 2003,     Lecture 20.

Instructor: Peter A. Rejto
Lecture: **11:15 – 12:05 MWF, Nicholson Hall 211**
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| Dis 21,23 | Dis 22,24 |
|---|---|
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**Textbook:** Stewart, Calculus - Early Transcendentals 4th edition. We will cover most but not all of Chapters 13–16

**Prerequisites:** First twelve chapters of Stewart or a comparable Calculus course, like Calc II. Note that we shall use Chapter 12 heavily and of course, as in Calc II, we shall also use the chain rule heavily. (For the chain rule see Section 3.5.)

**Homework:** Homework will be assigned in class and collected in the recitation sections on Tuesdays, after the material has been covered in class. Most, but not all of the assigned Homeworks will be taken from the enclosed ".

**Tests:** We will have four closed book tests on Thursdays, in the recitation sections; **Feb. 6, Feb. 27, Mar. 27, April 24** These tests will emphasize the same material that was emphasized in class. Furthermore, some of the test problems will be similar to the Homework problems on the enclosed '.

**Calculators:** The use of graphing calculators on tests will be allowed as per the Math. Department policy at http://www.math.umn.edu/arb/ugrad/Calculator.html More specifically, Test 2 will be an "exceptional" test, that is to say, a test where the use of calculators will not be allowed. On all other tests, including the final, the use of graphing calculators will be allowed. Note that this is a calculator policy and the use of laptop computers is not allowed.

**Quizzes:** There will also be about ten quizzes in the discussion groups. Note that there will be no makeups for a missed quizz. To compensate for this, the two lowest scores will be droped.

**Makeup Examinations:** As per university senate policy. Note that "Students are responsible for providing documentation to the instructor to verify the reason for the absence." For complete specifications visit the website: www1.umn.edu/usenate/policies/makeupexam.html. Accordingly, there will be a uniform makeup examination. That is to say, you take the same makeup examination for missing any of the four tests. The time is Tuesday, April 29, 9:05am–9:55am and the place is Smith Hall, room 111. **You have to sign up with your instructor on Friday, April 25, after class in Nicholson Hall 211** Please note that if you are not on the list the Math. Department proctors will not be able to give you the test!

**Record keeping:** If there is a discrepancy between your records and ours, please let us know immediately, but not later than two weeks. In any case, we shall not adjust our records after two weeks.

**Incompletes:** As per senate and Math. Department policy. Note that arrangements have to be made before the Final!

**Grading:**

| | |
|---|---|
| Homework / Quizzes | 16% |
| Tests 1 - 4 | 44% |
| Final Examination | 40% |

More specifically, each of the four midterm tests will be graded out of 110 points and the Final will be graded out of 400 points.

**Material to be covered:**

| | | |
|---|---|---|
| Chapter 13, | Sections 13.1–13.4; | 6 lectures |
| Chapter 14, | Sections 14.1–14.8; | 12 lectures |
| Chapter 15, | Sections 15.1–15.8; | 12 lectures |
| Chapter 16, | Sections 16.1-16.5; 16.7–16.9 | 12 lectures |
| Review | All sections | 2 lectures |

Note that: Sections 15.9 and 16.6 are omitted.

First day of instruction, Tuesday, January 21. Spring break, May 17–May 21. Last day of instruction, Friday, May 9.

### UNIFORM,COMPREHENSIVE FINAL EXAMINATION, MONDAY, MAY 12, 13:30–16:30, place to be announced.

**Preliminary List and Schedule of Assigned Homeworks:**

| Week | Date | Section | Problems |
|------|------|---------|----------|
| 1 | 1/20 | 13.1 | 1,2,3,4,5,12,30,31,35,37 |
|   |      | 13.2 | 2,3,9,10,14,16,17,23,33,41,42,46,47,48,49,50,51 |
|   |      | 13.3 | 1,7,9,,12,13 |
| 2 | 1/27 | 13.3 | 17,31,33,39,41,43,44 |
|   |      | 13.4 | 1,2,6,14,16,29 |
|   |      | 13.4 | 10,30,34,44 |
| 3 | 2/3 | 14.1 | 10,16,38,57,58.59 |
|   | 2/5 |      | Review |
|   | 2/6 |      | **Test 1** |
|   | 2/7 | 14.2 | 9,10,11,14,19,23,27,29,35,36,37 |
| 4 | 2/10 | 14.3 | 15,21,26,34,35,37,39,40,43,44,49,51,56,65,69,79 |
|   |      | 14.3 | 40,43,44,49,51,56,65,69,79 |
|   |      | 14.4 | 1,4,11,12,17,23,24,32,33,36,37,39,41 |
| 5 | 2/17 | 14.5 | 5,6,7,11,12,13,16 |
|   |      | 14.5 | 19,22,25,28,29,37,40,41 |
|   |      | 14.6 | 4,8,9,13,17,20,21,23,24 |
| 6 | 2/24 | 14.6 | 27,29,31,32,34,37,39,41,53 |
|   | 2/26 |      | Review |
|   | 2/27 |      | **Test 2** |
|   | 2/28 | 14.7 | 5,8,10,13,15,16 |
| 7 | 3/3 | 14.7 | 27,32,37,40,41,45,48 |
|   |     | 14.8 | 5,6,9,14,15,16,17 |
|   |     | 14.8 | 19,23,28,29,36,38,41 |
| 8 | 3/10 | 15.1 | 3,6,13,14 |
|   |      | 15.2 | 1,3,7,12,13,14,17,27,34 |
|   |      | 15.3 | 6,7,11,13,19,23,33,36,39,42,45,50 |
|   | 3/17 |      | **Spring break** |
| 9 | 3/24 | 15.4 | 4,7,8,14,14,16,17,21,23,30,31 |
|   | 3/26 | Review |  |
|   | 3/27 |      | **Test 3** |
|   | 3/28 | 15.5 | 1,5,7,10,13 |

| Week | Date | Section | Problems |
|------|------|---------|----------|
| 10 | 3/31 | 15.6 | 6,9,10 |
|    | 4/2  | 15.6 | 11,22 |
|    | 4/4  | 15.7 | 4,5,9,13,18,21,24,27,29,36,45,47 |
|    |      |      |  |
| 11 | 4/7  | 15.8 | 3,7,9,10,16,20,21,23,26,30,33,35 |
|    |      | 15.8 | 21,23,26,30,33,35 |
|    |      | 16.1–16.2 | 1.4,1.24, 2.4, 2.18,2.32,2.40 |
|    |      |      |  |
| 12 | 4/14 | 16.3 | 1,4,5,7,13,16,17,20,21,23,27,28,29,31,33 |
|    |      | 16.4 | 1,4,9,10,12,13,15,17,19,22,23 |
|    |      | 16.5 | 4,5,7,9,11,15,18,19,23,24,25,27,29,31,32,33 |
|    |      |      |  |
| 13 | 4/21 | 16.6 | 3,11–16,19,21,29,32,33,38,39,45 |
|    | 4/23 |      | Review |
|    | 4/24 |      | **Test 4** |
|    | 4/25 | 16.7 | 6,11,12,15,17,19,23,25,26,35,29,41,43 |
|    |      |      |  |
| 14 | 4/28 | 16.8 | 1,3,4,5,7,8,9,12,14 |
|    | 4/30 | 16.8 | 14,15,16,17,19 |
|    | 5/2  | 16.9 | 1,4,5,7,9,10,11 |
|    |      |      |  |
| 15 | 5/5  | 16.9 | 13,19,20,25,27 |
|    | 5/7  | Review |  |
|    | 5/9  | Review |  |

Last Updated: 02/15/2003