

MAC2313 Calculus 3 Summer 2007

Professor David Rollins

May 11, 2007

Contact Information

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Office: MAP 103, MWF 10:00-11:00, TR 11:00-12:00. If these times don't work for you, set up an appointment.

Course Information

Prerequisites: MAC2312 (Calculus 2) or the equivalent.

Course Description: MAC2313 is an extension of the ideas presented in Calculus 1 and 2 extended to multiple variables.

Topics: Chapter 13 - Vectors and geometry on space; vector space, scalar and vector products, lines and planes in 3D, surfaces, cylindrical and spherical coordinates. Chapter 14 - Vector functions, derivatives and integrals, arc length and curvature, motion in space; Chapter 15 - Partial derivatives, limits and continuity, tangent plane approximation, chain rule, directional derivatives, extreme values; Chapter 16 - Multiple integrals, double and triple integrals, surface area, applications; Chapter 17 - Vector calculus, line integrals, Green's theorem, curl and divergence, Stoke's theorem.

Text: Calculus, James Stewart, Fifth Edition

Calculator: Note that no calculators with symbolic capabilities may be used. Only basic scientific calculators are allowed on the tests.

Homework: The suggested homework problem list is on page 2 of this syllabus. You should spend at least two hours outside after each class working homework problems, so about ten hours a week minimum.

Quizzes: A weekly quiz will be given each Friday when a test is not given. It will be based on the assigned homework during that week. These quizzes will count for 10% of your grade with each quiz has the same weight.

Exams: There will be four in-class exams during the semester each weighted equally. The first two will take place June 1 and June 22. Your second half instructor will announce the dates for exam 3 and 4.

Grades: Quizzes 10%, Exams 90%. Standard grade scale will be used.

Important Dates: Memorial Day, May 28, Independence Day, July 4. Withdrawal deadline: June 22.

Note: All information in this syllabus is subject to change. Any changes will be given in writing.

Homework Problems

- 13.1: 7,9,11,13,17,21,23,25,27,29,31
13.2: 9,15,19,21,23,25,31,37
13.3: 1,5,7,9,13,17,19,21,23ac,27,29,31,33,37,39,43,47,51
13.4: 3-15 odd, 23,27,29,31,33,39,41
13.5: 3,5,7, 11-25 odd, 29, 33-43 odd, 47,51,53,55,59,61,65,67
13.6: 3,5,7, 11-19 odd, 21-28, 29,31,33,35,43,45
13.7: 5,7,11, 15-31 odd, 35,39,41,43,47,53,55,57,59
- 14.1: 1,3,5,7,11,17,19-24,25,35
14.2: 3,7,11,13,15,17,19,21,25,35,37
14.3: 1,5,11,13,15,19,23,27,39
14.4: 5,7,11,13,15,17,19,31,33
- 15.1: 7,9,15,19,30,39,43,59,61
15.2: 7,11,15,19,23,31,33,35
15.3: 13,17,21,29,37,41,43,45,47,51,59,61
15.4: 3,5,13,15,25,31
15.5: 3,5,9,11,17,19,23,25,27,33,43,45
15.6: 5,9,13,17,23,25,29,31,41,43,53
15.7: 3,7,11,13,17,29,31,33,39,43
15.8: 5,9,13,17,19
- 16.1: 1,2,4,11-14,17
16.2: 1-29 odd, 33
16.3: 1-28 odd, 43-50, 57
16.4: 1-6, 9-20, 21-31 odd
16.5: 3,5,7,9,15,17
16.6: 1-13 odd
16.7: 1, 3-6, 7-19 odd, 25-27, 31,32,37,39,40
16.8: 1-4, 7-21 odd, 33-36
16.9: 1-10, 11,13,15,19,21,23
- 17.1: 1,3,5,7,11-18 ,21-24 ,29-33
17.2: 1-15 odd, 17, 19-22, 35-37
17.3: 3-10, 13-23 odd, 27, 29-33
17.4: 1-4, 7-16, 21-23
17.5: 1-17 odd, 23-29, 36
17.6: 1-4, 11-16, 17-23 odd, 31-45 odd
17.7: 5-27 odd
17.8: 2-10, 15,17,19,20
17.9: 3-6, 7-15 odd, 23-28
17.10 Study Summary