

Course Outline for Math 200 (September-December, 2012)

Textbook: The textbook for this course is Multivariable Calculus 7E by J. Stewart. You also can use Calculus 7E Early Transcendentals by J.Stewart.

Drop-in Math Help: Tutors are available, at no charge, to answer questions on a drop-in basis, starting the second week of classes and continuing through the final-exam period until the final exam. Times scheduled are available by clicking the link:

Math Learning Center Drop-In

Exams and Grades: There will be a common final exam for all sections of Math 200. The Final Exam (2.5 hours) will be held in December. The date of the final examination will be announced by the Registrar later in the term. Attendance at the final examination is required, so be careful about making other commitments (such as travel) before this date is confirmed. Calculators, books, notes and formula sheets are not allowed in any exams. The Term Mark will count for 50% of the course grade. No make-up tests will be given for midterms. The Final Exam will count for 50% of the grades. The instructor reserves the right to revise or round off gradeds if circumstances warrant. In order to make course grade standards consistent across sections the raw final grade will be scaled.

Course Outline: This is an introduction to calculus of several variables. The main topics are partial derivatives and multiple integrals. An appreciation of three-dimensional geometry is essential. Section numbers refer to Stewart, Calculus 7E Early Transcendentals.

1. Vectors, quadratic surfaces (Sections 12.1-12.6) and conic sections (Section 10.5)
2. Partial derivatives, increments, chain rule (Sections 14.1, 14.3-14.5)
3. Directional derivative and Gradients (Section 14.6)
4. Max/min, Lagrange multipliers (Sections 14.7, 14.8)
5. Double integrals (Sections 15.1-15.5)
6. Triple integrals (Sections 15.7-15.9)

Suggested Problems: You are strongly advised to work out the following suggested problems in detail. These are not to be turned in, but they will give you practice in the techniques learned in class and provide valuable assistance in preparing for the common final examination.

12.1: 3, 5, 7, 9, 11, 13, 15, 21, 25, 27, 33, 35, 39; 41

12.2: 5, 7, 13, 17, 19, 21, 25, 29, 33, 35, 37, 41, 51

12.3: 1, 3, 5, 7, 9, 11, 15, 17, 21, 23, 25, 27, 39, 41, 45, 49, 55

12.4: 3, 5, 7, 9, 13, 17, 19

12.5: 3, 5, 7, 11, 13, 23, 25, 27, 29, 33, 35, 37, 51, 61, 65, 67

10.5: 3, 5, 7, 13, 17, 21, 23, 25, 27, 29

12.6: 1, 3, 7, 9, 11, 15, 19, 23, 25, 27, 29, 31

14.1: 1, 3, 7, 9, 11, 15, 19, 25, 27, 33, 39, 43, 47, 49, 53, 65

14.3: 1, 11, 13, 15, 17, 21, 27, 29, 35, 43, 45, 49, 53, 55, 61, 63, 69, 75, 77, 79, 81, 83, 89, 93

14.4: 1, 3, 5, 11, 13, 17, 19, 21, 25, 29, 31, 33, 35, 37, 39, 41

14.5: 1, 3, 5, 7, 11, 13, 17, 19, 21, 23, 35, 39, 41, 43, 47, 49, 53

14.6: 3, 5, 7, 9, 11, 15, 19, 21, 25, 27, 29, 31, 33, 41, 45, 49, 53, 55, 61

14.7: 1, 3, 5, 7, 9, 11, 13, 15, 29, 31, 35, 39, 41, 45, 47, 49, 51, 53, 55

14.8: 1, 3, 5, 7, 9, 11, 15, 17, 21, 27, 31, 35, 43

15.1: 1, 3, 11, 13

15.2: 3, 5, 7, 9, 11, 13, 15, 17, 23, 25, 27, 31

15.3: 1, 3, 5, 7, 9, 15, 17, 23, 29, 35, 37, 43, 45, 47, 49, 51, 59, 65

15.4: 9, 11, 17, 19, 21, 23, 25, 29, 31, 37, 39

15.5: 3, 5, 9, 11, 13, 15

15.7: 1, 3, 5, 7, 9, 11, 15, 21, 27, 33, 41

15.8: 9, 11, 15, 17, 19, 21, 25, 27, 29

15.9: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 25, 29, 31, 35, 46

Information about Math 200 Final Exam : The exam consists of 10 multi-part questions and will primarily cover the following sections from the text: 12.5; 14.3 - 14.8; 15.1 - 15.5 (except moment of inertia and probability in 15.5) and 15.7 - 15.9. Other sections included in the course outline but not listed here will not be examined explicitly, though they are needed for background.