

MATH 2654

Calculus III

Spring 2017

Instructor: Dr Scott Gordon

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Time and Location: TR 11:00–12:15, F 11:15–12:05, 301 Boyd

Office Hours: 2:00–3:00 M, 10:00–11:00 TRF

Textbook: *Multivariable Calculus, 7th Ed.*, by James Stewart. We will cover Chapters 12–16.

Course Description: The calculus of vector functions and functions of multiple variables.

Homework: I will assign homework exercises after each section. These problems will not be graded, but you may be quizzed on them.

Math Tutoring Center: The Math Tutoring Center (205 Boyd) is an excellent resource for help with this class. No appointment is needed - you simply sign in, begin working, and consult a tutor if you have a question. The tutoring center hours can be found on the Math Department's website under "Students".

Tests and Quizzes: There will be four 1-hour tests worth 80 points each and nine 20-minute quizzes worth 20 points each. (See schedule below for dates.) **Note:** Calculators will not be permitted on tests or quizzes.

Rescheduling a tests or quiz: If you have a valid reason for missing a test or quiz, you may be allowed to reschedule, but you must make arrangements with me *in advance*.

Final: There will be a *cumulative* final exam worth 160 points on 5/9, 11:00–1:30.

Grading: Your numerical grade will be your total points (on tests, quizzes, and the final) as a percentage of the total number of possible points. Your letter grade will be determined according the following grading scale: A: 88–100, B: 76–87, C: 64–75, D: 52–63, F: 0–51.

Withdrawal: March 2nd is the last day to withdraw from the course with a grade of W.

Important policies: Please carefully review the following information at the link below. It contains important material pertaining to your rights and responsibilities in this class.

http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf

Testing Schedule

quiz 1 - 1/17	test 2 - 2/23	quiz 8 - 4/13
quiz 2 - 1/26	quiz 5 - 3/3	test 4 - 4/18
test 1 - 1/31	quiz 6 - 3/14	quiz 9 - 4/27
quiz 3 - 2/9	test 3 - 3/17	final - 5/9
quiz 4 - 2/17	quiz 7 - 4/4	

Learning Outcomes: The student will be able to

1. Perform standard vector operations.
2. Differentiate and integrate vector functions.
3. Compute arclength and curvature of vector functions.
4. Use calculus of vector functions to analyze motion in 3-dimensional space.
5. Compute partial and directional derivatives of functions of multiple variables.
6. Apply the chain rule to vector functions and functions of multiple variables.
7. Find extreme values of functions of multiple variables.
8. Use Lagrange multipliers to find extreme values of functions of multiple variables subject to constraints.
9. Compute double and triple integrals in rectangular, polar, cylindrical, and spherical coordinates.
10. Compute line and surface integrals.
11. Apply Green's Theorem, Stokes' Theorem, and the Divergence Theorem.