

MATH 2654

Calculus III

Fall 2017

Instructor: Dr Scott Gordon

Office: 212 Boyd (678-839-4134)

E-mail: sgordon@westga.edu

Time and Location: TR 2:00–3:15 (303 Boyd), F 1:00–1:50 (305 Boyd)

Office Hours: 8:30–9:30 TR, 11:00–12:30 TR, 11:00–12:00 F, or by appointment.

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. Selected problems will be turned in for a grade.

Math Tutoring Center: You can get individual tutoring for this class without an appointment in the Math Tutoring Center (205 Boyd). The tutoring center hours can be found on the Math Department's website under "Students".

Tests: There will be four tests during the semester worth 100 points each. The test dates are 8/29, 9/19, 10/17, 11/7.

Rescheduling a tests: If you have a valid reason for missing a test, you may be allowed to reschedule, but you must make arrangements **as soon as possible**.

Final: There will be a *cumulative* final exam worth 200 points on 12/5, 2:00–4:00.

Grading: Your numerical grade will be your total points (on homework, tests, 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: September 29 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

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.