

MATH 2644

Calculus II

Fall 2017

Instructor: Dr Scott Gordon

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Time and Location: TR 12:30–1:45 (305 Boyd), F 12:05–12:55 (Anth 7)

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

Textbook: *Single Variable Calculus, Early Transcendentals, 7th Ed., Vol. 2*, by James Stewart.

Course Description: Applications of integration (arc length, areas, volumes, and work), techniques of integration (integration by parts, trig substitutions, partial fractions, tables, approximate integration), improper integrals, parametric equations, differential equations, infinite and Taylor series.

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 12/7, 11:00–1:00.

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. Compute areas under curves and between curves.
2. Compute volumes by disks, washers, shells, and cross-sections.
3. Compute arclength of a curve and surface area of a surface of revolution.
4. Compute work done when either force or distance are varying functions.
5. Evaluate limits involving indeterminate forms using l'Hôpital's Rule.
6. Evaluate antiderivatives using the techniques of u -substitution, integration by parts, trigonometric integrals, trigonometric substitution, partial fractions, completing the square.
7. Evaluate improper integrals.
8. Solve differential equations using separation of variables.
9. Determine whether an infinite sequence converges or diverges.
10. Test an infinite series for convergence using geometric series, p -series, the comparison test, the limit comparison test, the integral test, the ratio test, the root test, and the alternating series test.
11. Determine the radius of convergence and the interval of convergence of a power series.
12. Compute the Taylor series and Maclaurin series of a function.