

# Syllabus for TTU Math 1920.007 Calculus II, Spring 2012

8AM MTWR in BR 124

Instructor: Tom Wigen (BR 116), Office Hrs 9-10 MTW and by appointment

## Course description from catalog:

Integration techniques, applications of the definite integral, polar coordinates, parametric equations, sequences, and series.

## Prerequisites:

C or better in MATH 1910; or equivalent AP credit for MATH 1910.

## Course objectives:

To study integrals of functions of one variable and their applications in the physical and life sciences.

## Topics to be covered:

Chapter 6: Applications of Integration

areas between curves, Volumes, Volumes by cylindrical shells, Average value of a function.

Chapter 7: Techniques of Integration

integration by parts, trigonometric integrals, trigonometric substitution, integration of rational functions by partial fractions, strategy for integration, approximate integration, improper integrals.

Chapter 8: Further Applications of Integration

arc length, area of a surface of revolution, applications to physics and engineering

Chapter 10: Parametric Equations and Polar Coordinates

curves defined by parametric equations, calculus with parametric curves, polar coordinates, areas and lengths in polar coordinates.

Chapter 11: Infinite Sequences and Series

sequences, series, integral test and estimates for sums, comparison tests, alternating series, absolute convergence and the ratio and root tests, strategy for testing series, power series, representations of functions as power series, Taylor and McLaurin series.

## Textbook:

Calculus with Early Transcendentals, 7<sup>th</sup> edition, by James Stewart.

## Exams and grading

- Four 100-point chapter exams will be given at the ends of chapters 6, 7, 8 and 10 (anticipated exam dates are Jan 26, Feb 16, Mar 1 and Mar 29).
- A 200-point comprehensive final exam, organized as a 100-point exam on chapter 11 and a 100-point comprehensive exam, will be given from 8-10 AM on Wednesday May 2, 2012.
- No calculators, cell phones or other electronic devices are allowed to be used during exams. All test questions are meant to be answered "manually".
- Your lowest chapter exam score will be dropped and your course grade will be determined from your point total on the remaining (500 possible points), using a 90-80-70-60 grading scale. [300 points will earn a "D", 350 will earn a "C", 400 will earn a "B", 450 will earn an "A" ]
- Extra credit quizzes (5 point value, 5-10 minutes each) may be given on those Thursdays when a chapter exam is not scheduled.

Students with a disability requiring accommodations should contact the Office of Disability Services (Roaden University Center, room 112, phone 372-6119). An accommodation request should be completed by the end of the first week of the course.