Summer 2020 Analytical Geometry – Calculus II 3450:222

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OFFICE HOURS: any time by appointment!

Text and Coverage: Calculus Early Transcendentals, J. Stewart, edition 8, Chps. 6-11.

Website for schedule, homework problems and announcements:
http://www.math.uakron.edu/~sf34/class_home/calc/calc2/calc2sum20.htm

GRADING POLICY:

1000 points possible. For each of these three categories the fraction of points you receive is the same fraction that you earn out of the total possible. So if you get a 49 out of 50 on Test 1 then you earn (49/50)*200 = 196 points.

400 pts: Homework, quizzes (40%)
600 pts: 3 Tests (60%)

900 pts. guarantees an A
800 pts. guarantees a B
700 pts. guarantees a C
600 pts. guarantees a D
(+,- at my discretion)

Course Outline with dates:

- May 18: Day one.
- Chapter 6: Areas and Volumes
- Chapter 7: Integration methods
- May 25: Last day to drop.
- TEST 1
- June 12: Last day to w/draw.
- Chapter 11: Sequences and Series
- TEST 2
- Chapter 8: Curves and Surfaces
- Chapter 10: Parametric and Polar
- July 10: Last day.
- TEST 3.

Evaluation Procedure:

• When graded, quizzes and homework will be given a grade out of ten or twenty points, where full credit will be assigned when the graded problems (if any) have correct answers with all correct work shown. Points may be subtracted for each graded problem with an incorrect answer, incorrect work, or not all work shown. The quiz/homework average will be calculated by dropping a total of 15 raw quiz points which means that I'll calculate your percentage by first adding up to 15 points back on to your raw score, limited by the maximum number of hw/quiz points possible. This will have the effect of making a 100% quiz average possible despite missed work.

• There will be 3 in-class closed book tests during the semester over the material from lectures, homework and the book. No test may be taken early or late.

• Homework quizzes may not be copied, but collaboration and research are allowed. All other work, especially tests, must be individual only. Any incidence of academic dishonesty carries a minimum penalty of a non-removable zero for that work.

Learning Outcomes for 3450:222 Analytic Geometry and Calculus II

Students are expected to be able to:

(1) Communicate mathematical results through the proper use of mathematical notation and words

(2) Use basic integration techniques, including substitution, integration by parts, trig integrals, trig substitution, and partial fractions

(3) Apply integration techniques to solve problems regarding volume, surface area, length of a curve, and other applications

(4) Understand sequences and series, including tests of convergence and divergence of series

(5) Work with power series and their basic properties

(6) Understand parameterized curves and polar coordinates.

Tentative Section Outline

Section	Topic	Suggested Homework
6.1	Areas Between Curves	1-11 odd, 17-29 odd
6.2	Volumes	1-29 odd, 39, 41, 49, 56-59
6.3	Volumes by Cylindrical Shells	1-19 odd, 29, 37, 39, 41
6.5	Average Value of a Function	1-9 odd, 15, 17, 19
7.1	Integration by Parts	1-41 odd, 57, 61, 63
7.2	Trigonometric Integrals	1-41 odd, 57, 61, 63
7.3	Trigonometric Substitution	1-29 odd, 33, 37
7.4	Integration of Rational Functions by Partial Fractions	1-39 odd
7.5	Strategy for Integration	Try some odds!
7.7	Approximate Integration	7, 11, 15
7.8	Improper Integrals	1, 5-41 odd, 49, 51, 53
11.1	Sequences	1-55 odd, 75-79 odd
11.2	Series	1, 15-41 odd, 51-63 odd
11.3	The Integral Test and Estimates of Sums	3-29 odd
11.4	The Comparison Tests	1-31 odd
11.5	Alternating Series	3-19 odd
11.6	Absolute Convergence and the Ratio and Root Tests	3-29 odd
11.7	Strategy for Testing Series	1-37 odd
11.8	Power Series	1-27 odd
11.9	Representations of Functions as Power Series	1-29 odd
11.10	Taylor and Maclaurin Series	5-15 odd, 19-25 odd, 35-43 odd, 73, 75
8.1	Arc Length	9-19 odd
8.2	Area of Surface of Revolution	1a, 3a, 5, 7, 11, 13, 15
10.1	Curves Defined by Parametric Equations	1-15 odd, 19, 21, 24, 25, 27, 28
10.2	Calculus With Parametric Curves	1-19 odd, 25, 29
10.3	Polar Coordinates	1-45 odd, 54, 55-61 odd
10.4	Area and Arc Length in Polar Coordinates	1-11 odd, 17,19, 23, 25, 29