Math 0230 Schedule and Practice Problems

This is the schedule of topics and associated textbook sections accompanied by highly recommended practice problems from, *Essential Calculus, Early Transcendentals*, 2nd Edition by James Stewart for all day sections. Relevant problems from the 1st Edition of the text are also listed for your convenience. Exam dates are also on the schedule. The hyperlinked pdfs by some topics will direct you to sections found on the website accompanying our text. The website is used for additional topics that are not included in the print or electronic version of the textbook.

**January 09: Integration by substitution**  
ed 1: 5.5 Number 1-54 odd  
ed 2: 5.5 Number 1-56 odd

**January 11: Integration by parts**  
ed 1: 6.1 Number 1-28 odd  
ed 2: 6.1 Number 1-30 odd

**January 13: Trigonometric integrals and substitution**  
ed 1: 6.2 Number 1-33 odd, 41-57 odd  
ed 2: 6.2 Number 1-33 odd, 43-59 odd

**January 18: Partial fractions**  
ed 1: 6.3 Number 1-39 odd  
ed 2: 6.3 Number 1-39 odd

**January 20: Partial fractions (cont)**

**January 23: Improper integrals**  
ed 1: 6.6 Number 5-31 odd, 41, 43, 45  
ed 2: 6.6 Number 5-31 odd, 41, 43, 45

**January 25: Areas between curves**  
ed 1: 7.1 Number 1-15 odd, 16  
ed 2: 7.1 Number 1-19 odd, 18

**January 27: Volumes**  
ed 1: 7.2 Number 1-11 odd, 21, 27  
ed 2: 7.2 Number 1-11 odd, 27, 33
January 30: Volumes by cylindrical shells
ed 1: 7.3 Number 5, 6, 9, 18, 19, 20, 21, 23
ed 2: 7.3 Number 5, 6, 9, 10, 11, 12, 17, 19, 33, 34

February 01: Arc length
ed 1: 7.4 Number 2, 3, 5, 6, 10
ed 2: 7.4 Number 2, 7, 10, 15, 17

February 03: Applications to physics and engineering
(no moments or center of mass; hydrostatic pressure and force optional)
ed 1: 7.5 Number 1, 3, 5, 7, 9, 12, 13, 15, 17, 18, 23, 25, 27, 30
ed 2: 7.6 Number 1, 3, 5, 7, 9, 12, 13, 15, 17, 18, 27, 28, 31, 34

February 06: Differential equations
ed 1: 7.6 Number 1-15 odd, 21-29
ed 2: 7.7 Number 1-15 odd, 21-29

February 08: Applications of differential equations
ed 1: 7.6 Number 35, 37, 39, 43, 45, 46
ed 2: 7.7 Number 35, 37, 39, 43, 45, 46

February 10: Linear differential equations
Section: Linear Differential Equations Number 1-20

February 13: Homogeneous second-order differential equations
Section: Second-Order Linear Differential Equations Number 1-24

February 15: Inhomogeneous second-order equations by undetermined coefficients
Section: Nonhomogeneous Linear Equations Number 1-22 (undetermined coefficients only)

February 17: Oscillations
Section: Applications of Second-Order Differential Equations Number 1-10

February 20: Review

February 22: Midterm Exam I

February 24: Sequences
ed 1: 8.1 Number 3-36
ed 2: 8.1 Number 3-40
February 27: Series
ed 1: 8.2 Number 3-29, 33, 34
ed 2: 8.2 Number 3-28, 31-34, 35-37, 43, 44

March 01: The integral and comparison tests
ed 1: 8.3 Number 2-27
ed 2: 8.3 Number 2-31

March 03: Other convergence tests
ed 1: 8.4 Number 1-18, 19-37 odd
ed 2: 8.4 Number 1-18, 19-39 odd

March 13: Other convergence tests
ed 1: 8.4 Number 1-18, 19-37 odd
ed 2: 8.4 Number 1-18, 19-39 odd

March 15: Power series
ed 1: 8.5 Number 3-20
ed 2: 8.5 Number 3-24

March 17: Representing functions as power series
ed 1: 8.6 Number 1-30
ed 2: 8.6 Number 1-32

March 20: Representing functions as power series (cont)

March 22: Taylor and Maclaurin series
ed 1: 8.7 Number 1-34, 37-64
ed 2: 8.7 Number 1-34, 37-64

March 24: Taylor and Maclaurin series (cont)

March 27: Applications of Taylor polynomials
(no remainder, no physics)
ed 1: 8.8 Number 3, 5, 7, 9-15 parts (a) and (c)
ed 2: 8.8 Number 3, 5, 7, 9-15 parts (a) and (c)

March 29: Review
March 31: Midterm Exam II

April 03: Parametric curves
ed 1: 9.1 Number 1, 3, 5, 7, 9, 10, 13, 15, 16, 17, 18, 22, 31
ed 2: 9.1 Number 1, 3, 5, 7, 9, 10, 13, 15, 16, 17, 18, 22, 31

April 05: Calculus with parametric curves
ed 1: 9.2 Number 1-15 odd, 24, 25, 28, 30, 35, 37, 40
ed 2: 9.2 Number 1-15 odd, 24, 25, 28, 30, 35, 37, 38

April 07: Polar coordinates
ed 1: 9.3 Number 1-6, 7, 9, 10, 11, 13-20, 23-29 odd, 46, 47, 51-54
ed 2: 9.3 Number 1-6, 7, 9, 10, 11, 13-20, 23-33 odd, 46, 47, 51-54

April 10: Areas and length in polar coordinates
ed 1: 9.4 Number 1-13, 15-25 odd
ed 2: 9.4 Number 1-13, 15-25 odd

April 12: Areas and length in polar coordinates
ed 1: 9.4 Number 29-38
ed 2: 9.4 Number 29-38

April 14: Functions of several variables
ed 1: 11.1 Number 1-11 odd, 13-35, 41-50
ed 2: 11.1 Number 1-11 odd, 13-35, 41-50

April 17: Partial derivatives
ed 1: 11.3 Number 1-60
ed 2: 11.3 Number 1-60

April 19: Review

April 21: Review

Departmental Final Exam: Thursday, April 27 from 2 - 3:50 pm
Day sections only. Section locations will be scheduled at a later date by the Registrar’s Office.