

Math 0230 Schedule and Practice Problems

Below is the schedule of topics and associated textbook sections accompanied by sets of highly recommended practice problems from *Essential Calculus, Early Transcendentals*, Second Edition (ed 2) by James Stewart for MATH 0230: Analytic Geometry and Calculus 2. Relevant problems from the First Edition (ed 1) of the text are also listed for your convenience. Exam dates are indicated on the schedule, including the departmental final exam given to all students enrolled in daytime sections at the indicated date and time.

August 25: Integration by substitution

ed 1: 5.5 Number 1-54 odd

ed 2: 5.5 Number 1-56 odd

August 27: Integration by parts

ed 1: 6.1 Number 1-28 odd

ed 2: 6.1 Number 1-30 odd

August 29: 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

September 03: Partial fractions

ed 1: 6.3 Number 1-39 odd

ed 2: 6.3 Number 1-39 odd

September 05: Partial fractions (cont)

September 08: Improper integrals

ed 1: 6.6 Number 5-31 odd, 41, 43, 45

ed 2: 6.6 Number 5-31 odd, 41, 43, 45

September 10: Areas between curves

ed 1: 7.1 Number 1-15 odd, 16

ed 2: 7.1 Number 1-19 odd, 18

September 12: Volumes

ed 1: 7.2 Number 1-11 odd, 21, 27

ed 2: 7.2 Number 1-11 odd, 27, 33

September 15: 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

September 17: Arc length

ed 1: 7.4 Number 2, 3, 5, 6, 10

ed 2: 7.4 Number 2, 7, 10, 15, 17

September 19: 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

September 22: Differential equations

ed 1: 7.6 Number 1-15 odd, 21-29

ed 2: 7.7 Number 1-15 odd, 21-29

September 24: 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

September 26: Linear differential equations

Section: [Linear Differential Equations](#) Number 1-20

September 29: Review**October 01: Midterm Exam I****October 03: Homogeneous second-order differential equations**

Section: [Second-Order Linear Differential Equations](#) Number 1-24

October 05: Inhomogeneous second-order equations by undetermined coefficients

Section: [Nonhomogeneous Linear Equations](#) Number 1-22 (undetermined coefficients only)

October 08: Oscillations

Section: [Applications of Second-Order Differential Equations](#) Number 1-10

October 13: Sequences

ed1: 8.1 Number 3-36

ed2: 8.1 Number 3-40

October 15: Series

ed 1: 8.2 Number 3-29, 33, 34

ed 2: 8.2 Number 3-28, 31-34, 35-37, 43, 44

October 17: The integral and comparison tests

ed 1: 8.3 Number 2-27

ed 2: 8.3 Number 2-31

October 20: Other convergence tests

ed 1: 8.4 Number 1-18, 19-37 odd

ed 2: 8.4 Number 1-18, 19-39 odd

October 22: Other convergence tests

ed1: 8.4 Number 1-18, 19-37 odd

ed2: 8.4 Number 1-18, 19-39 odd

October 24: Power series

ed 1: 8.5 Number 3-20

ed 2: 8.5 Number 3-24

October 27: Representing functions as power series

ed 1: 8.6 Number 1-30

ed 2: 8.6 Number 1-32

October 29: Representing functions as power series (cont)**October 31: Taylor and Maclaurin series**

ed 1: 8.7 Number 1-34, 37-64

ed 2: 8.7 Number 1-34, 37-64

November 03: Taylor and Maclaurin series (cont)**November 05: 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)

November 07: Review

November 10: Midterm Exam II

November 12: 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

November 14: 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

November 17: 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

November 19: 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

November 21: Areas and length in polar coordinates

ed 1: 9.4 Number 29-38

ed 2: 9.4 Number 29-38

December 01: 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

December 03: Partial derivatives

ed 1: 11.3 Number 1-60

ed 2: 11.3 Number 1-60

December 05: Review

Departmental Final Exam: Friday, December 12 from 8 - 9:50am

Day sections only. Section locations will be scheduled at a later date by the Registrar's Office.