

Course Outline – Math 207 TU

Spring 2014

Class 1 - Tuesday, January 14

Lecture: [Class Notes](#)
Course Information ([syllabus](#), [textbook info](#), [calculator info](#))
Completing the square ([Part 1](#), [Part 2](#), [Part 3](#), [Part 4](#)), [Review of Factoring](#)

Homework: [Questions](#) and [Are You Ready for Calculus?](#) (start working on it)

Also posted: [Review Guide](#)

Class 2 - Thursday, January 16

Lecture: [Class Notes](#)
[Functions](#) (1.1), Review of parabolas - [Part 1](#), [Part 2](#)
[Complete analysis of a function - Part 1](#)

Class 3 - Tuesday, January 21

Lecture: [Class Notes](#)
[Quadratic Inequalities](#), [Circles](#), The quadratic formula, increasing/decreasing functions
Study on your own: [Basic functions and their properties](#)

Class 4 - Thursday, January 23

Lecture: [Class Notes](#)
[Limits at Infinity - Part 1](#)

Class 5 - Thursday, January 30

Lecture: [Class Notes](#)
[Properties of Limits](#), [Limits at Infinity - Part 2](#), Average Velocity

Also posted: [Exam 1 Information](#), [Exam 1 Review](#)

Class 6 - Tuesday, February 4

Lecture: [Class Notes](#)
[Two-sided limits](#) and continuity, [Graphing Polynomials 1](#)

Class 7 - Thursday, February 6

Exam 1

Class 8 - Tuesday, February 11

Lecture: [Class Notes](#)
Instantaneous Velocity and the Derivative of a Function ([Proofs](#), [Examples](#))

Also posted: [Virtual Class](#)

Class 9 - Thursday, February 13

Lecture: [Class Notes](#)
Relative and absolute extrema (almost [Complete analysis of a function](#))
[Applications of the derivative: tangent lines](#)
[Applications of the derivative: increasing/decreasing behavior, and relative extrema](#),
[Differentiation 1 – Practice](#)

Also posted: [Quiz 2 - take home quiz](#) - due at the beginning of class on Tuesday, February 18

Class 10 - Tuesday, February 18

Lecture: [Class Notes](#)
[Trigonometric Limits](#), [Graphing Polynomials](#)

Class 11 - Thursday, February 20

Lecture: [Class Notes](#)
[Optimization](#)

Class 12 - Tuesday, February 25

Lecture: [Class Notes](#)
[Virtual Class - Part 2](#)
[Differentiating \$f\(x\)=\sin x\$ and \$g\(x\)=\cos x\$](#) , The Product Rule ([Proof](#) and [Practice](#))
Antiderivatives ([Practice](#))

Class 13 - Thursday, February 27

Lecture: [Class Notes](#)
[Definitions and Theorems](#), The number e , [Limits involving \$e\$](#) ,
Also posted: [Exam 2 Information](#)

Class 14 - Tuesday, March 4

Lecture: [Class Notes](#)
Review for Exam 2, Differentiating logarithmic functions: [proof](#)
The quotient rule: [proof](#) and [practice](#)

Class 15 - Thursday, March 6

Exam 2

Class 16 - Tuesday, March 11

Lecture: [Class Notes](#)
[Complete analysis of a function](#), [Inverse Functions](#)

Class 17 - Thursday, March 13

Lecture: [Class Notes](#)
The Chain Rule, [Leibniz notation](#)
Also posted: [Differentiation practice](#)

Class 18 - Tuesday, March 18

Lecture: [Class Notes](#)
[Inverse Trig Functions](#), [Computing Trigonometric Expressions](#),
[Inverse Trigonometric Expressions](#), [Concavity Behavior](#)
Also posted: [Optimization 3](#)

Class 19 - Thursday, March 20

Lecture: [Class Notes](#)
[Graphing Polynomials](#), [Implicit Differentiation](#)

Class 20 - Tuesday, March 25

Lecture: [Class Notes](#)
[Related Rates](#), Differentiating exponential functions, [Practice](#)

Class 21 - Thursday, March 27

Lecture: [Class Notes](#)
[Antiderivatives after the chain rule](#), [Graphing the antiderivative](#)
Also posted: [Exam 3 Information](#)

Class 22 - Tuesday, April 1

Lecture: [Class Notes](#)
Exam 3 Review

Class 23 - Thursday, April 3

Exam 3

Class 24 - Tuesday, April 8

Lecture: [Class Notes](#)
[Differentiating Inverse Trigonometric Functions](#), [Practice](#), [Induction](#)

Class 25 - Thursday, April 10

Lecture: [Class Notes](#)
[Riemann Sums](#)
Also posted: [Extra Credit Assignment 1](#)

Class 26 - Tuesday, April 22

Lecture: [Class Notes](#)
[Riemann Sums](#) (practice), The Fundamental Theorem of Calculus (5.4)
Also posted: [Definite Integrals](#)

Class 27 - Thursday, April 24

Lecture: [Class Notes](#)
Summation Notation, Fundamental Theorem of Calculus, [Integrating by substitution](#)
Also posted: Exam 4 Review: [Version 1](#), [Version 2](#)

Class 28 - Tuesday, April 29

Lecture: [Class Notes](#)
Properties of the Definite Integral, [Improper Integrals](#), [L'Hôpital's Rule](#)

Class 29 - Thursday, May 1

Lecture: [Class Notes](#)
[Integration by Parts](#), [Graphing in Polar Coordinates](#)

Class 30 - Tuesday, May 6

Lecture: [Class Notes](#)
Final Review

Class 31 - Thursday, May 8

Final Exam