

Course Outline

Math 207 PQ – Fall 2014

Class 1 – Monday, August 25, 2014

Lecture: Course Outline ([syllabus](#), [textbook info](#), [calculator info](#), [Guide to Review](#))
[What is a Function?](#)
Completing the Square [Parts 1,2,3](#) and [Part 4](#), [Factoring 1](#)

Homework: [Questions](#) and Problems #1-7 on [Are You Ready for Calculus?](#)

Class 2 – Wednesday, August 27, 2014

Lecture: Logarithms- [Part 1](#) and [Part 2](#), [Basic Functions and Their Properties](#)
[Limits at Infinity – Part 1](#)

Homework: Problems #8-29 on [Are You Ready for Calculus?](#)

Class 3 – Wednesday, September 3

Lecture: [Limits at Infinity – Part 2](#), [Complete Analysis of a Function – Part 1](#)
Review: Graph of a Parabola [Part 1](#), [Part 2](#)

Homework: Problems #30-33 on [Are You Ready for Calculus?](#)

Class 4 – Monday, September 8

Lecture: [Circles](#), [Inverse Functions](#), [Symmetries of the Unit Circle](#),
[Compound Angle Identities](#), [Half-Angle Formulas](#)

Class 5 – Wednesday, September 10

Lecture: [Quadratic Inequalities](#), [Average Velocity](#), [Properties of Limits](#), [Two-sided limits](#)

Class 6 – Monday, September 15

Lecture: [Differentiation 1](#), [Differentiating by Finding Limits](#)

Class 7 – Wednesday, September 17

Lecture: Differentiating Polynomials, [Tangent Lines](#)

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

Class 8 – Monday, September 22

Lecture: Review for Exam 1, [Trigonometric Limits](#)

Class 9 – Wednesday, September 24

Exam 1

Class 10 – Monday, September 29

Lecture: [Differentiation 1](#), [Graphing Polynomials 1](#), [Differentiating \$\sin x\$ and \$\cos x\$](#) , [Domain Continuity \(2.5\)](#), [Differentiable and Continuous Functions \(2.8\)](#)

Class 11 – Wednesday, October 1

Lecture: [Relative Extrema](#), The Product Rule - [Proof](#) and [Practice](#)

Class 12 – Monday, October 6

Lecture: [Complete Analysis of a Function – Part 2](#), [Optimization 2](#), [Antiderivatives](#), [Graphing Polynomials –Part 2](#)

Class 13 – Wednesday, October 8

Lecture: [Limits involving \$e\$](#) and compound interest, [Differentiating Logarithmic Functions](#), [Differentiation](#) (practice)

Also posted: [Exam 2 Information](#), [Exam 2 Review](#)

Class 14 – Monday, October 13

Lecture: Exam 2 review, The Second Derivative Test (4.3)

Class 15 – Wednesday, October 15

Exam 2

Class 16 – Monday, October 20

Lecture: [Axioms of Real Numbers](#), [Intermediate Value Theorem](#)
The Quotient Rule ([Proof](#) and [Practice](#))

Class 17 – Wednesday, October 22

Lecture: [Intermediate Value Theorem](#), [Inverse Trigonometric Functions](#)

Class 18 – Monday, October 27

Lecture: The chain Rule (3.4), ([Practice](#)) Differentiating Exponential Functions (3.1) ([Practice](#))

Also posted: [Computing Trigonometric Expressions](#), [Inverse Trigonometric Expressions](#)

Class 19 – Wednesday, October 29

Lecture: Differentiating Inverse Trigonometric Functions ([Proofs](#) and [Practice](#))
[Concavity Behavior](#)

Also posted: [Optimization 3](#)

Class 20 – Monday, November 3

Lecture: [Implicit Differentiation](#) (3.5), [Antiderivatives after the chain rule](#) (4.9),
[Graphing the antiderivative](#) (4.3)

Also posted: [Complete Analysis of a Function](#)

Class 21 – Wednesday, November 5

Lecture: [Related Rates](#) (3.9), [Graphing Polynomials](#) (Part 2)

Also posted: [Exam 3 Information](#)

Class 22 – Monday, November 10

Review for Exam 3

Class 23 – Wednesday, November 12

Exam 3

Class 24 – Monday, November 17

Lecture: [L'Hôpital's Rule](#) (4.4), [Induction](#), [Summation](#) (Appendix E)

Class 25 – Wednesday, November 19

Lecture: [Riemann Sums \(Practice\)](#) (5.1, 5.2)

Class 26 – Monday, November 24

Lecture: [Definite Integrals](#) (5.2), [Integrating by substitution](#) (5.5)

Class 27 – Wednesday, November 26

Lecture: [Properties of the Definite Integral](#) (5.2), [The Fundamental Theorem](#) (5.3)
[Improper Integrals](#) (7.8)

Also posted: [Exam 4 Information](#), [Exam 4 Review - 1](#), [Exam 4 Review - 2](#)

Class 28 – Monday, December 1

Lecture: [Integrating by parts](#) (7.1), [Application of the Definite Integral - 1](#) (5.2, 6.1)

Class 29 – Wednesday, December 3

Lecture: [Calculus with Trigonometry](#) (Practice), [Graphing in Polar Coordinates](#) (10.3)

Class 30 – Monday, December 8

Final Review

Class 31 – Wednesday, December 10

Final Exam