

Course Outline

Math 207 GH – Fall 2016

Class 1 – Tuesday, August 30

Lecture: Course Information ([Syllabus](#), [textbook info](#), [calculator info](#), [Guide to Review](#))
Completing the Square [Parts 1,2,3](#) and [Part 4](#), [Review of Factoring 1](#)
Worksheet 1

Also posted: [Are You Ready for Calculus?](#), [Guide to Review](#), [Radical Expressions](#),
[Completing the Square - Part 4](#), [Quadratic Formula](#)

Homework for Thursday: Read the syllabus, register on [MyOpenMath](#), and start working on 'Getting started with MyOpenMath'.

Class 2 – Thursday, September 1

Lecture: [Average Velocity - Part 1](#)
[What is a Function?](#), Review: Parabolas - [Part 1](#), [Part 2](#),
[Complete analysis of a function - Part 1](#)

Class 3 – Tuesday, September 6

Lecture: [Average Velocity - Part 2](#), [Quadratic Inequalities](#)

Class 4 – Thursday, September 8

Lecture: [Circles](#), [Basic Functions](#), [Limits at Infinity - Part 1](#),

Class 5 – Tuesday, September 13

Lecture: Trigonometry Review: Right Triangle Trigonometry, [Famous Values](#),
[Unit Circle Definitions](#), [Symmetries of the Unit Circle](#),
Trigonometric Equations: [Part 1](#), [Part 2](#), [Part 3](#)

Class 6 – Thursday, September 15

Lecture: [Properties of Limits](#), [Limits at Infinity – Part 2](#)

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

Class 7 – Tuesday, September 20 Lecture: [Properties of Limits](#), [Two-sided limits](#) Also posted:
Review: [Graphing Rational Functions](#)

Class 8 – Thursday, September 22
Exam 1

Class 9 – Tuesday, September 27 Lecture: [Instantaneous Velocity](#), permutations and combinations

Class 10 – Thursday, September 29

Lecture: [The Binomial Formula](#) (only 9.5 and 9.6), [Differentiating by Finding Limits](#)

Also posted: Review of logarithms ([Part 1](#), [Part 2](#))

Class 11 – Tuesday, October 4

Lecture: [Limits, Continuity, and the Intermediate Value Theorem](#) (definitions, theorems)

Class 12 – Thursday, October 6

Lecture: [Limits, Continuity, IVT, Differentiability and Continuity](#), [Inverse Functions](#),
[Graphing Polynomials - 1](#)

Class 13 – Tuesday, October 11

Lecture: [Differentiation 1](#) (proofs of the rules), [Review of the Compound Angle Formulas](#),
[Trigonometric Limits](#), [Differentiating \$\sin x\$ and \$\cos x\$](#)

Class 14 – Thursday, October 13

Lecture: [Complete Analysis of a Function – Part 2](#), [Relative Extrema](#), [Tangent Lines](#)

Also posted: [Differentiation 1](#) (practice), [Exam 2 Information](#), [Exam 2 Review](#)

Class 15 – Tuesday, October 18

Lecture: [Optimization 2](#), The Product Rule - [Proof](#) and [Practice](#)

Class 16 – Thursday, October 20

Exam 2

Class 17 – Tuesday, October 25

Lecture: [Limits involving \$e\$](#) , Differentiating Logarithmic Functions: [Proof](#) and [Practice](#)

Class 18 – Thursday, October 27

Lecture: [Inverse Trigonometric Functions](#), notation for indefinite integral or antiderivatives
The Quotient Rule - [Proof](#) and [Practice](#)

Class 19 – Tuesday, November 1

Lecture: [Extreme Value Theorems](#), [Mean Value Theorem](#), [Antiderivatives](#)

Class 20 – Thursday, November 3

Lecture: The Second Derivative Test, [Optimization 3](#), The Chain Rule ([Practice](#))

Class 21 – Tuesday, November 8

Lecture: [Differentiating Exponential Functions \(Practice\)](#), [Induction](#), [Summation 1](#)

Class 22 – Thursday, November 10

Lecture: [Summation 2](#), [Computing Trig Expressions](#)

Also posted: [Exam 3 Information](#), [Exam 3 Review](#)

Class 23 – Tuesday, November 15

Lecture: Exam 3 Review, [Inverse Trigonometric Expressions](#),
Differentiating Inverse Trigonometric Functions ([Proofs](#) and [Practice](#)), [Optimization 4](#)

Class 24 – Thursday, November 17

Exam 3

Class 25 – Tuesday, November 22

Lecture: [Implicit Differentiation \(more practice\)](#), [Antiderivatives after the chain rule](#),
[Riemann Sums](#) and the Definite Integral ([practice](#))

Class 26 – Tuesday, November 29

Lecture: [Related Rates \(more practice\)](#), [Concavity Behavior](#)

Class 27 – Thursday, December 1

Lecture: [Graphing the antiderivative](#), [Complete Analysis of a Function](#),
[The Fundamental Theorem](#), [Definite Integrals](#), [Properties of the Definite Integral](#)

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

Class 28 – Tuesday, December 6

Lecture: [Integrating by substitution](#)

Class 29 – Thursday, December 8

Lecture: [Improper Integrals](#), [L'Hôpital's Rule](#)

Class 30 – Tuesday, December 13

Lecture: Final Review, [Exponents and Logarithms](#)

Class 31 – Thursday, December 15

Exam 4 (same as the final exam)