

Course Outline - Math 143 BC

Spring 2014

Class 1 - Monday, January 13

Lecture: Course Information ([Syllabus](#), [Textbook Information](#), [Calculator Information](#))
[Review of Equations](#), [Factoring A](#), [Fractions and Decimals](#)

Homework: [Questions](#)

Also posted: [Quiz 1 Review](#) and Lecture Notes for your own review: [Exponents 1](#),
[Simplifying Algebraic Expressions](#), [Graphing Straight Lines](#)

Extra Credit Assignment:

1. Provide an argument why it is true that the decimal presentation of every rational number is either terminating or repeating.
2. Prove that the set of all rational numbers is closed under addition, subtraction, multiplication, and division.

Class 2 - Wednesday, January 15

Lecture: Completing the square ([Part 1](#), [Part 2](#), [Part 3](#)), [Factoring 1](#), [Radical Expressions](#),

Also posted: [Quiz 2 Review](#), [Linear Word Problems](#)

Class 3 - Wednesday, January 22

Lecture: [The Pythagorean Theorem](#), [Completing the square - part 4](#), [Graph of a parabola 1](#),

Also posted: [Quiz 3 Review](#), [Quadratic Wordproblems](#)

Solving systems of equations [by elimination](#) and [by substitution](#)

Class 4 - Wednesday, January 29

Lecture: [Writing equations of lines](#), [Graph of a parabola 2](#), [Optimization 1](#), Integer exponents

Also posted: [Quiz 4 Review](#), and [Practice on integer exponents](#)

Class 5 - Monday, February 3

Lecture: [Similar Triangles](#), [Circles - Part 1](#), [Graphical Solutions](#)

Also posted: [Basic Percent Problems](#), [Quiz 5 Review](#)

Class 6 - Wednesday, February 5

Lecture: [Circles - Part 1](#), [Non-linear systems](#) (10.8)

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

Class 7 - Monday, February 10

Lecture: [Quadratic Inequalities](#), [Radical Equations](#), [Right Triangle Trigonometry](#)

Class 8 - Wednesday, February 12

Exam 1

Also posted: [Quiz 7 Review](#)

Class 9 - Wednesday, February 19

Lecture: [The Quadratic Formula](#), [Famous Trigonometric Values](#),
[Simplifying Trigonometric Expressions](#), [Rational Exponents](#), [Functions](#) (2.1)
[Domain of functions](#)

Also posted: [Quiz 8 Review](#)

Class 10 - Monday, February 24

Lecture: [Arcs and Sectors in Circles](#), [Trigonometric Identities 1](#) (7.1), [Logarithms 1](#)

Also posted: [Quiz 9 Review](#)

Class 11 - Wednesday, February 26

Lecture: [Computing Trigonometric Expressions](#), [Unit Circle Definition of Trigonometric Functions](#)

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

Class 12 - Monday, March 3

Lecture: Exam 2 Review, [Circles 2](#), Radian measure of angles (6.1),

[Basic functions and their graphs](#) (2.1, 2.2, 4.1, 4.2)

Also posted: [Quiz 10 Review](#)

Class 13 - Wednesday, March 5

Exam 2

Also posted: [Quiz 11 Review](#)

Class 14 - Monday, March 10

Lecture: [Symmetries of the Unit Circle](#), [Trigonometric Equations 1](#) (7.4),

[Graphing trigonometric functions](#)

Also posted: [Quiz 12 Review](#)

Class 15 - Wednesday, March 12

Lecture: [Logarithms 2](#) (4.4), [Trigonometric Equations 2](#) (7.4, 7.5), [Trigonometric Equations 4](#)

Also posted: [Quiz 13 Review](#), [Basic Percent Problems](#)

Class 16 - Monday, March 17

Lecture: [Graphing Polynomials 1](#) (3.2), [Trigonometric Identities 2](#),

Tangent lines to parabola ([by completing the square](#), [by discriminant](#))

Also posted: [Quiz 14 Review](#)

Class 17 - Wednesday, March 19

Lecture: [Proof of the Sum Formulas](#), [Trigonometric Identities 3](#) (7.2, 7.3), [Trigonometric Equations 3](#),

Also posted: [Quiz 15 Review](#)

Class 18 - Monday, March 24

Lecture: [Reciprocal of a Graph](#), [Rational Inequalities](#), [Rational Inequalities - Another Method](#),

[Division of Polynomials \(3.3\)](#)

Also posted: [Quiz 16 Review](#)

Class 19 - Wednesday, March 26

Lecture: [Limits at Infinity - Part 1](#) (13.1, 13.2), [Exponential Equations](#) (4.5),

[More trigonometric Graphs](#) (5.3)

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

[Quiz 15 - Optional take-home quiz](#) (due Monday beginning of class)

Class 20 - Monday, March 31

Lecture: Review for Exam 3, [Law of Sines](#) (6.5)

Also posted: [Quiz 17 Review](#)

Class 21 - Wednesday, April 2

Exam 3

Also posted: [Quiz 18 Review](#)

Class 22 – Monday, April 7

Lecture: [Law of Sines](#) (6.5), [Limits at infinity](#) (Part 2), [Graphing Polynomials 2](#) (3.2),
[Discontinuities of rational functions: Holes and vertical asymptotes](#) (3.7)

Also posted: [Quiz 19 Review](#)

Class 23 - Wednesday, April 9

Lecture: [Half-angle formulas](#) (7.3), Law of Cosines (6.6), [Complex Numbers](#) (3.5), [Inverse Functions](#)

Also posted: [Quiz 20 Review](#), [Solving Triangles](#)

Class 24 – Monday, April 21

Lecture: [Product-sum and sum-product identities](#) (7.3), [Transformation on Graphs](#) (2.5),
Composing Functions (2.6)

Also posted: [Quiz 21 Review](#)

Class 25 – Wednesday, April 23

Lecture: [Graphing rational functions](#) (3.7), [Trigonometric Equations 5](#), Composing functions (2.7)

Also posted: [Quiz 22 Review](#), [Extra Credit Assignment 2](#), [Exam4 Information](#), [Exam 4 Review](#)

Class 26 – Monday, April 28

Lecture: [Inverse Trigonometric Functions](#) (5.5)
[Inverse Trigonometric Expressions](#)

Class 27 – Wednesday, April 30

Lecture: [Graphing Trigonometric Functions](#) (5.3), Polar Form of Complex Numbers (8.3),
[Factoring Polynomials](#), [Induction](#) (12.5)

Class 28 - Monday, May 5

Lecture: Final Review, Logarithm tables, [Vectors](#) (9.1, 9.2)

Class 29 - Wednesday, May 7

Final Exam