

MATH 9 : ESSENTIALS OF ALGEBRA & TRIGONOMETRY

California State University, Sacramento · Department of Mathematics & Statistics

This course is designed to prepare students, majoring in bioscience, economics, and social science for courses requiring basic algebra and right angle trigonometry (e.g. Physics 2 and 5A). Course coverage includes a review of high school algebra up to and including the quadratic formula with an introduction to right angle trigonometry. Manipulative skills are emphasized.

Math 9 is Intermediate Algebra and Right Triangle Trigonometry. It is a course designed to prepare you for Math 17, 24, 26A, 29, 107A, or Statistics 1. The Intermediate Algebra Diagnostic (IAD) test is also required for Chemistry 1 and 4. This is a Credit/No Credit course and will not count towards your degree (but will count as units toward full-time enrollment status). The IAD is given as the final for this course.

CATALOG DESCRIPTION

Prepares students, especially in bioscience, economics and social science, for courses requiring basic algebra and trigonometry. Topics: measurement and scientific notation; review of basic algebra; factoring; laws of exponents; linear and quadratic equations; Cartesian coordinates and graphing; the trigonometric functions and their basic identities; solutions of right triangles; the laws of sines, cosines and tangents; solutions of general triangles; logarithms. Note: Applicable to workload credit for establishing full-time enrollment status, but not applicable to the baccalaureate degree. **Graded:** Remedial Grade Basis. **Units:** 3.0.

PREREQUISITES

One year each of high school algebra and geometry; and a passing score on the IAD test. A working knowledge of elementary algebra is necessary to begin this class. This is demonstrated by scoring at least 9 on the IAD or being concurrently enrolled in LS 10X. A CR (Credit) in LS10A or LS7B last semester may also be considered.

ASSIGNMENTS

A variety of reading and problem solving assignments will be part of the course.

EXAMINATIONS

There will be regular midterm examinations and a comprehensive final examination for this course.

WEEKLY LESSON SCHEDULE

Wk	Dates	Assignment
1	Sept 2–5	0.0 Entering Answers in WebAssign (Extra Credit) 1.0 Algebra Review 5.1 Rules of Exponents and Multiplying Polynomials 5.2 Negative Exponents
2	Sept 8–12	5.3 Scientific Notation 6.1 Factoring by Grouping 6.2 & 6.3 Factoring $ax^2 + bx + c$ and $x^2 + bx + c$ 6.4 Difference of Squares
3	Sept 15–19	6.7 Solving Quadratic Equations by Factoring 7.1 Simplifying Rational Expressions
4	Sept 22–26	7.2 Multiplying/Dividing Rational Expressions 7.3 Add/Subtract Rational Expressions - Same Denominators 7.4 Add/Subtract Rational Expressions - Unlike Denominators
5	Sept 29–Oct 3	Review for Exam 1 EXAM 1
6	Oct 6–10	7.5 Complex Fractions 7.6 Solving Rational Equations 8.1 & 8.4 Linear Inequalities
7	Oct 13–17	8.5 Solving Absolute Equations & Inequalities 8.2 & Review of Graphing Lines, Slope, Midpoint, etc.
8	Oct 20–24	X1 Systems of Linear Equations X2 Systems of Linear Inequalities
9	Oct 29–31	Review for Exam 2 EXAM 2
10	Nov 3–6	9.1 Radical Expressions 9.3 Simplifying/Combining Radical Expressions 9.4 Multiplying Radical Expressions/Rationalize Denominators
11	Nov 10–14	9.2 Rational Exponents 9.5 Solving Radical Equations 10.1 Square Root Property/Completing the Square/Complex Numbers
12	Nov 17–21	10.2 Quadratic Formula 10.4 Quadratics Graphs, Vertex 10.5 Quadratic Inequalities
13	Nov 24–26	11 Exponentials & Logarithms X3 Trigonometry Lesson (at www.csus.edu/math Math 9)
14	Dec 1-5	Review for Exam 3 EXAM 3
15	Dec 8–12	IAD Review with Diagnostic Test Study Guide
16	Dec 15–19	Final EXAM (check your class syllabus for day & time) My final is _____(date)_____ (day)_____ to _____(time)