MATH 4

Textbook: Beecher: College Algebra. Fifth Edition. UCR Custom Text.

Suggested number of 50-minute lectures:

1.0 lecture – R.1 The real number system.

1.0 lecture – R.2 Integer exponents. (Omit scientific notations).

1.0 lecture – R.3 Addition, subtraction and multiplication of polynomials.

1.0 lecture – R.4 Factoring.

1.0 lecture – R.5 The basics of equation solving.

1.0 lecture – R.6 Rational expressions.

1.0 lecture – R.7 Radical notation and rational exponents.

1.0 lecture – 1.1 Introduction to graphing.

1.0 lecture – 1.2 Functions and graphs.

1.0 lecture – 1.3 Linear functions, slope and applications.

1.0 lecture – 1.4 Equations of lines and modeling.

1.0 lecture – 1.5 Linear equations and applications.

1.0 lecture – 2.1 Increasing, decreasing and piecewise functions. (Omit greatest integer function).

1.0 lecture – 2.2 Algebra of functions.

1.0 lecture – 2.3 Composition of functions.

1.0 lecture – 2.4 Symmetry. 2.5 Transformation.

1.0 lecture – 3.1 Complex numbers (briefly). 3.2 Quadratic equations.

1.0 lecture – 3.3 Graphs of quadratic equations.

1.0 lecture – 3.4 Solving rational and radical equations.

1.0 lecture – 1.6 Solving linear inequalities. 3.5 Solving inequalities with absolute value.

1.0 lecture – 4.1 Polynomial functions.

1.0 lecture – 4.2 Graphing polynomial functions.

1.0 lecture – 4.3 Polynomial division. Remainder Theorem. Factor Theorem.

1.0 lecture – 4.4 Theorems about zeros of polynomial functions.

1.0 lecture – 4.5 Rational functions.

1.0 lecture – 4.6 Polynomial and rational inequalities.

1.0 lecture – 5.1 Inverse functions.

1.0 lecture – 5.2 Exponential functions and graphs.

1.0 lecture – 5.3 Logarithmic functions and graphs.

1.0 lecture – 5.4 Properties of logarithmic functions.

1.0 lecture – 5.5 Solving exponential and logarithmic equations.

1.0 lecture – 6.1 Systems of equations in 2 variables.

1.0 lecture – 6.7 Linear inequalities and systems of inequalities.

1.0 lecture – 6.8 Partial fractions.

1.0 lecture – 7.4 Nonlinear systems of equations and inequalities.

1.0 lecture – 8.1 Sequences and series. 8.2 Arithmetic sequences and series.

2.0 lectures – 8.3 Geometric sequences and series. 8.5 Permutations. 8.6 Combinations.