

TEXT: Precalculus-Understanding Functions-A Graphing Approach, Arthur Goodman and Lewis Hirsch, Brooks/Cole

CHAPTER	NUMBER OF WEEKS
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<i>1. Algebra: The Fundamentals</i>	<i>1</i>
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This entire chapter is very important, but do not get bogged down in it; **this is material which should be at least somewhat familiar to students who expect to succeed in Math 209.**

Concentrate on sections:

- 1.4 Exponents and Radicals
- 1.7 Absolute Value and Inequalities
- 1.8 Quadratic Equations and Equations in Quadratic Form

<i>2. Functions and Graphs: Part I</i>	<i>2</i>
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Do all:

- 2.1 The Cartesian Coordinate System: Graphing Straight Lines And Equations of Circles
- 2.2 Slope
- 2.3 Equations of Line
- 2.4 Relations and Functions
- 2.5 Function Notation
- 2.6 Relating Functions to Their Graphs
- 2.7 Introduction to Graph Sketching: Symmetry

<i>3. Functions and Graphs: Part 2</i>	<i>2</i>
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Do:

- 3.1 Basic Graphing Principles
- 3.2 More Graphing Principles; Types of Functions
- 3.3 Extracting Functions from “Real Life” Situations
- 3.4 Quadratic Functions
- 3.5 Operations on Functions

Note: Light on 3.6, Inverse Functions

<i>4. Polynomial, Rational and Radical Functions</i>	<i>1</i>
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Do:

- 4.1 Polynomial Functions
- 4.2 More on Polynomial Functions and Mathematical Models
- 4.5 Rational Functions
- 4.6 Radical Functions

Omit:

- 4.3, Polynomial Division, Roots of Polynomial Equations, The Remainder, and Factor Theorems
- Sections 4.4, Roots of Polynomial Equations, continued, The Rational Root and Descartes' Rule of Signs and 4.7, Variation, are less applicable to calculus and maybe delayed or even omitted if necessary.

5. Exponential Functions **2**

Do:

- 5.1 Exponential Functions
- 5.2 Logarithmic Functions
- 5.3 Properties of Logarithms and Logarithmic Equations
- 5.4 Common and Natural Logarithms; Exponential Equations and Change of Base
- 5.5 Applications

Logarithms will be new and/or difficult for most students; work many examples involving them.

6. Trigonometry **2**

Do:

- 6.1 Angle Measurement and Two Special Triangles
- 6.2 The Trigonometric Functions
- 6.3 Right Triangle Trigonometry and Applications
- 6.4 The Trigonometric Functions as Functions of Real Numbers

7. The Trigonometric Functions **2**

Do:

- 7.1 The Sine and Cosine Functions and Their Graphs
- 7.2 The Tangent, Secant, Cosecant and Cotangent Functions and Their Graphs
- 7.3 Basic Identities
- 7.4 Trigonometric Equations
- 7.5 The Inverse Trigonometric Functions

8. More Trigonometric and Its Applications **1**

Do:

- 8.1 The Addition Formulas
- 8.2 The Double-Angle and Half-Angle Formulas
- 8.3 The Law of Sines and The Law of Cosines

In 8.3, the ambiguous case arising from "side-side-angle" information should at least be mentioned, but detailed coverage is optional.

Subtotal	13 Weeks
Exams, Quizzes, Review	1 Week

TOTAL 14 Weeks

NOTE: If time permits, you may wish to cover 9.1, 2x2 Linear Systems: Elimination and Substitution