

Math 31 Sections to Cover (OpenStax Precalculus 2e)

Chapter	Required Section	Notes
Chapter 1 Functions	1.1 Functions and Function Notation 1.2 Domain and Range 1.3 Rates of Change and Behavior of Graphs 1.4 Composition of Functions 1.5 Transformation of Functions 1.6 Absolute Value Functions 1.7 Inverse Functions	
Chapter 2 Linear Functions	2.1 Linear Functions 2.2 Graphs of Linear Functions 2.3 Modeling with Linear Functions	
Chapter 3 Polynomial and Rational Functions	3.1 Complex Numbers 3.2 Quadratic Functions 3.3 Power Functions and Polynomial Functions 3.4 Graphs of Polynomial Functions 3.5 Dividing Polynomials 3.6 Zeros of Polynomial Functions 3.7 Rational Functions 3.8 Inverses and Radical Functions 3.9 Modeling Using Variation	Missing Contents: Solve equations and inequalities involving rational expressions. Solve equations and inequalities involving radical functions. Solve equations and inequalities involving absolute value functions.
Chapter 4 Exponential and Logarithmic Functions	4.1 Exponential Functions 4.2 Graphs of Exponential Functions 4.3 Logarithmic Functions 4.4 Graphs of Logarithmic Functions 4.5 Logarithmic Properties 4.6 Exponential and Logarithmic Equations 4.7 Exponential and Logarithmic Models	
Chapter 9 Systems of Equations and Inequalities	9.1 Systems of Linear Equations: Two Variables 9.3 Systems of Nonlinear Equations and Inequalities: Two Variables	
Chapter 10 Analytic Geometry	10.1 The Ellipse 10.2 The Hyperbola 10.3 The Parabola	

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Chapter	Required Sections	Notes
Chapter 5: Trigonometric Functions	5.1: Angles 5.2: Unit Circle: Sine and Cosine Functions 5.3: The Other Trigonometric Functions 5.4: Right Triangle Trigonometry	
Chapter 6: Periodic Functions	6.1: Graphs of Sine and Cosine Functions 6.2: Graphs of the Other Trigonometric Functions 6.3: Inverse Trigonometric Functions	Notes about Section 6.3: 1) Inverse trigonometric identities other than compositions with inverse are missing 2) Inverses of csc, sec and cot are not defined in the textbook, but they are optional in the course outline Our course outline has "Combining basic periodic functions to create other periodic functions; for example Fourier series" - this is limited in the textbook (Fourier series missing completely)
Chapter 7: Trigonometric Identities and Equations	7.1: Solving Trigonometric Equations with Identities 7.2: Sum and Difference Identities 7.3: Double-Angle, Half-Angle, and Reduction Formulas 7.5: Solving Trigonometric Equations 7.6: Modeling with Trigonometric Functions	Note about Section 7.4: Product-to-Sum Identities are optional in our course outline so this section is not required
Chapter 8: Further Applications of Trigonometry	8.1: Non-right Triangles: Law of Sines 8.2: Non-right Triangles: Law of Cosines 8.3: Polar Coordinates 8.4: Polar Coordinates: Graphs 8.5: Polar Form of Complex Numbers 8.9: Vectors	Missing content: Vector projections and resolving into parallel and perpendicular components are missing
Chapter 11: Sequences, Probability and Counting Theory	11.1: Sequences and Their Notations 11.2: Arithmetic Sequences 11.3: Geometric Sequences 11.4: Series and Their Notations	