## Acellus® Pre-Calculus

## INTERNATIONAL ACADEMY OF SCIENCE

**Pre-Calculus Course Curriculum** 

| Unit | 1 - Functions  | Unit 4 - Trigonometric Functions               |
|------|--|--|
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| 2    | Continuity, Increasing, Decreasing                   | 48 Arc Length                                  |
| 3    | Symmetry, Asymptotes, End Behavior                   | 49 Trig Functions of Acute Angles              |
| 4    | Extrema  | 50 Special Angles                              |
| 5    | Function Tool Kit                                    | 51 Circular Functions                          |
| 6    | Piecewise Defined Functions                          | 52 Graphs of Sine and Cosine                   |
| 7    | Combining Functions                                  | 53 Translations of Trig Functions              |
| 8    | Composition  | 54 Tangent, Cotangent, Secant, and Cosecant    |
| 9    | Implicitly Defined                                   | 55 Harmonic Motion                             |
| 10   | Parametrically Defined                               | 56 Inverse Trig Functions                      |
| 11   | Inverse Functions                                    | Unit 5 - Analytic Trigonometry                 |
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| 13   | Translations   | 58 Sum and Difference Formulas - Sine & Cosine |
| 14   | Dilations  | 59 Sum and Difference Formulas - Tangent       |
| 15   | Modeling   | 60 Sums and Differences II                     |
| 16   | Sequences  | 61 Multiple Angles                             |
| Unit | 2 - Polynomial, Power, and Rational                  | 62 Solving Right Triangles                     |
|      | Linear   | 63 Areas of Triangles                          |
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| 19   | Quadratics II  | 65 Law of Sines II                             |
| 20   | Power  | 66 Law of Cosines                              |
| 21   | Polynomial   | 67 Law of Cosines II                           |
| 22   | Long Division  | 68 Area  |
| 23   | Synthetic Division                                   | 69 Problem Solving - Part I                    |
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| 30   | Fundamental Theorem of Algebra                       | 75 Graphs of Polar Equations                   |
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| 32   | Multiplication and Division of Rational Expressions  | 77 DeMoivre's Theorem                          |
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