**Mathematics Content Emphasis**

**Algebra 2**

Aligned to the Arizona Mathematics Standards, Adopted 2016



Arizona DepaRtment of Education

High Academic Standards for Students

**Major and Supporting Clusters by Course**

Not all of the content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than the others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. In addition, an intense focus on the most critical material at each grade allows depth in learning, which is carried out through the Standards for Mathematical Practice.

To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. The following table identifies the Major Clusters, and Supporting Clusters for this grade.

~Achieve the Core

Arizona considers **Major Clusters** as groups of related standards that require greater emphasis than some of the others due to the depth of the ideas and the time it takes to master these groups of related standards.

Arizona considers **Supporting Clusters** as groups of related standards that support standards within the major cluster in and across grade levels. Supporting clusters also encompass pre-requisite knowledge and extensions of grade level and course content.

**2016 Content Emphasis**

**Algebra 2 Course Content**

Course content indicated by: major content; supporting content.

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| **The Real Number System (N-RN)** |
|  | Extend the properties of exponents to rational exponents. |
| **Quantities (N-Q)** |
|  | Reason quantitatively and use units to solve problems |
| **The Complex Number System (N-CN)** |
|  | Perform arithmetic operations with complex numbers  |
|  | Use complex numbers in polynomial identities and equations  |
| **Seeing Structure in Expressions (A-SSE)** |
|  | Interpret the structure of expressions  |
|  | Write expressions in equivalent forms to solve problems  |
| **Arithmetic with Polynomials and Rational Expressions (A-APR)** |
|  | Understand the relationship between zeros and factors of polynomials  |
|  | Use polynomial identities to solve problems  |
|  | Rewrite rational expressions  |
| **Creating Equations (A-CED)** |
|  | Create equations that describe numbers or relationships  |
| **Reasoning with Equations and Inequalities (A-REI)** |
|  | Understand solving equations as a process of reasoning and explain the reasoning  |
|  | Solve equations and inequalities in one variable  |
|  | Solve systems of equations  |
|  | Represent and solve equations and inequalities graphically  |
| **Interpreting Functions (F-IF)** |
|  | Interpret functions that arise in applications in terms of the context  |
|  | Analyze functions using different representations  |

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| **Building Functions (F-BF)** |
|  | Build a function that models a relationship between two quantities  |
|  | Build new functions from existing functions  |
| **Linear, Quadratic, and Exponential Models (F-LE)** |
|  | Construct and compare linear, quadratic, and exponential models and solve problems  |
|  | Interpret expressions for functions in terms of the situation they model.  |
| **Trigonometric Functions (F-TF)** |
|  | Extend the domain of trigonometric functions using the unit circle  |
|  | Model periodic phenomena with trigonometric functions  |
|  | Apply trigonometric identities  |
| **Interpreting Categorical and Quantitative Data (S-ID)** |
|  | Summarize, represent and interpret data on a single count or measureable variable.  |
|  | Summarize, represent and interpret data on two categorical and quantitative variables.  |
|  | Interpret models  |
| **Making Inferences and Justifying Conclusions (S-IC)** |
|  | Understand and evaluate random processes underlying statistical experiments  |
|  | Make inferences and justify conclusions from sample surveys, experiments and observational studies  |
| **Conditional Probability and the Rules of Probability (S-CP)** |
|  | Understand independence and conditional probability and use them to interpret data  |
|  | Use the rules of probability to compute probabilities of compound events in a uniform probability model  |