SAILS Math

The Seamless Alignment and Integrated Learning Support (SAILS) program targets students who have not achieved college readiness benchmarks by introducing the college developmental curriculum into the high school senior year.

Developed by K-12 teachers and higher education faculty, SAILS embeds the Tennessee Board of Regents (TBR) Learning Support competencies into the high school senior year math course, allowing students to begin their higher education career prepared for credit-bearing coursework.

• The Real Number System

o Use properties of rational and irrational numbers.

• Quantities

o Reason quantitatively and use units to solve problems.

• The Complex Number System

o Perform arithmetic operations with complex numbers.

 • Seeing Structure in Expressions

 o Write expressions in equivalent forms to solve problems.

 • Arithmetic with Polynomials and Rational Expressions

o Perform arithmetic operations on polynomials.

o Understand the relationship between zeros and factors of polynomials.

• Creating Equations

o Create equations that describe numbers or relationships.

• Reasoning with Equations and Inequalities

 o Understand solving equations as a process of reasoning and explain the reasoning.

 o Solve equations and inequalities in one variable.

 o Solve systems of equations.

 o Represent and solve equations and inequalities graphically.

 • Interpreting Functions

 o Understand the concept of a function and use function notation.

o Interpret functions that arise in applications in terms of the context.

o Analyze functions using different representations

• Similarity, Right Triangles, and Trigonometry

o Understand similarity in terms of similarity transformations.

 o Define trigonometric ratios and solve problems involving right triangles.

• Circles

o Find arc lengths and areas of sectors of circles.

• Geometric Measurement and Dimension

o Visualize relationships between two-dimensional and three-dimensional objects.

• Modeling with Geometry

o Apply geometric concepts in modeling situations.

 • Interpreting Categorical and Quantitative Data

o Summarize, represent, and interpret data on a single count or measurement variable.

o Summarize, represent, and interpret data on two categorical and quantitative variables.

o Interpret linear models.

• Conditional probability and the Rules of Probability

o Use the rules of probability to compute probabilities of compound events in a uniform probability model.