High School Mathematics

Peoria Unified's goal is to develop mathematically proficient students. This is achieved through a focus on reasoning and innovative problem solving that prepares all students to be successful in their post-secondary careers.

Our curriculum is aligned to the Arizona State Standards and the district’s course guide. The standards focus on developing the critical-thinking, problem-solving and analytical skills students will need to be college and career ready.

As determined by the Arizona State Board of Education (R7-2-302) and the Peoria Unified Governing Board, mathematics must include four high school classes, including Algebra I, Geometry, Algebra II and a culminating one credit advanced math class for which Algebra II is a prerequisite.
Core Course Offerings

ALGEBRA I
The fundamental purpose of Algebra I is to formalize and extend the mathematics that students learned in elementary school. In this course, students will:
- Deepen and extend understanding of solving equations and systems;
- Compare the difference in behaviors between linear and non-linear relationships;
- Engage in methods of analyzing, solving and using quadratic functions;
- Apply linear models to data that exhibit a linear trend.
Competency in Algebra I is a state university admission requirement.

GEOMETRY
In this course, students will:
- Establish criteria for congruence and similarity of geometric figures;
- Develop understanding of informal explanations of circumference, area, and volume formulas;
- Prove geometric theorems;
- Solve problems involving right triangles.
PREREQUISITE: Algebra I

ALGEBRA II
In this course students will:
- Extend the real number system to the complex number system;
- Solve and interpret solutions to a variety of equations, inequalities, and systems of equations;
- Demonstrate competency graphing and interpreting functions;
- Extend simple and compound probability calculations to conditional probability.
PREREQUISITE: Geometry

Additional Core Course Offerings

<table>
<thead>
<tr>
<th>Core Course Offerings</th>
<th>Honors Credit Offered</th>
<th>Dual Enrollment Offered</th>
<th>Online Course Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Algebra</td>
<td>Investments, credit, automobile expenses, insurance, income tax, household budgeting, and more.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>College Algebra</td>
<td>Increase understanding of mathematical concepts and their applications through topics including set theory, probability, statistics, finance, and geometry.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>College Math</td>
<td>Systems of equations and inequalities, conic sections, polynomials, rational, exponential, and logarithmic functions, and matrices.</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Elective Course Offerings

<table>
<thead>
<tr>
<th>Elective Course Offerings</th>
<th>Honors Credit Offered</th>
<th>Dual Enrollment Offered</th>
<th>Online Course Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Calculus</td>
<td>Verifying trigonometric identities and using them to solve trigonometric equations. Topics also include partial fractions, vectors, linear velocity, angular velocity and both arithmetic and geometric sequences and series.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Brief-Calculus</td>
<td>Introduction to limits, differentiation, and integration with emphasis on business applications.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>AP Statistics</td>
<td>Conclusions from data; using technology, investigation, problem solving, and writing to build conceptual understanding; design, administer, and tabulate results from surveys and experiments.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>AP Calculus I</td>
<td>Study of continuity, limits, differentiation, and integration as applied to algebraic, trigonometric, and transcendental functions.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>AP Calculus II</td>
<td>Study of advanced integration techniques, convergence and divergence of infinite series, parametric equations, polar coordinates, vector analysis and spatial geometry.</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

RESOURCES
- ALEKS
- HMH 2015
- Cengage Learning
- Pearson/Addison Wesley
- Houghton Mifflin
- Brooks/Cole Publishing Co

Source: Arizona Department of Education | Academic Standards by Subject