

Course Syllabus

Syllabus Welcome to Pre-Algebra B! During this course students will cover topics of the second semester of a Pre-Algebra course.

Course Objectives At the end of this course students will be able to

1. Solve multi -step equations and inequalities containing fractions or decimals.
 2. Solve equations with variables on both sides.
 3. Solve a formula for a given variable.
 4. Determine whether a relation is a function.
 5. Find solutions of equations with two variables.
 6. Graph linear equations with two variables.
 7. Find the slope of a line.
 8. Write a function rule.
 9. Solve systems of linear equations by graphing.
 10. Graph linear inequalities and systems of linear inequalities.
 11. Name and classify basic geometric figures.
 12. Determine whether triangles are congruent.
 13. Find circumferences.
 14. Find central angles and make circle graphs.
 15. Construct a congruent segment or angle, segment bisectors and angle bisectors.
 16. Graph a translation, reflection or rotation of a geometric figure.
 17. Find areas of rectangles, parallelograms, triangles, trapezoids, circles and irregular figures.
 18. Find surface areas and volumes of prisms, cylinders, pyramids, cones and spheres.
 19. Find square roots of numbers.
 20. Classify real numbers.
 21. Use the Pythagorean Theorem, the Distance Formula and the Midpoint Formula.
 22. Use the relationships in 45° - 45° - 90° and 30° - 60° - 90° triangles.
 23. Find trigonometric ratios in right triangles.
 24. Make and analyze box-and-whisker plots.
 25. Calculate probabilities of independent and dependent events.
 26. Find experimental probability.
 27. Use permutations and combinations.
 28. Describe number patterns with arithmetic or geometric sequences.
 29. Graph quadratic and absolute value functions.
 30. Add, subtract and multiply polynomials.
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Curriculum The curriculum is based on the National Council of Teachers of Mathematics Standards for School Mathematics and the California State Board of Education Mathematics Content Standards for Algebra, Geometry, Trigonometry and Probability and Statistics.

The National Council of Teachers of Mathematics Standards for School Mathematics are listed here:

1. Number and Operations
2. Algebra
3. Geometry

4. Measurement
5. Data Analysis and Probability
6. Problem Solving
7. Reasoning and Proof
8. Communication
9. Connections
10. Representation

The California State Board of Education Mathematics Content Standards, for Algebra, Geometry, Trigonometry and Probability and Statistics, can be viewed at the following:

- <http://www.cde.ca.gov/be/st/ss/mthalgebra1.asp>
- <http://www.cde.ca.gov/be/st/ss/mthalgebra2.asp>
- <http://www.cde.ca.gov/be/st/ss/mthgeometry.asp>
- <http://www.cde.ca.gov/be/st/ss/mthtrig.asp>
- <http://www.cde.ca.gov/be/st/ss/mthprobatat.asp>

**Textbook
and Class
Supplies**

The course uses Prentice Hall Mathematics, Pre-Algebra textbook and supporting materials. Students will need to have a copy of this textbook and/or web access to the Interactive Textbook in order to complete this course. Additional materials the student will need include a folder, or similar method of organizing work, with an adequate supply of ruled and/or graph paper and pencils, and a scientific or graphing calculator.

**Course
Expectations**

Before beginning, students will take a Learning Outcomes Assessment. This pre-test will help the student and instructor determine how to focus efforts to successfully complete this course. Each week students will be expected to do the required reading in the textbook or interactive textbook, explore the topic lectures which include illustrated examples and interactive activities, complete the assignments by solving problems, attend at least one of the two one-hour chat sessions to communicate both verbally and in writing with the instructor and other students synchronously, answer questions asynchronously on the discussion board, and demonstrate understanding of the week's material through a multiple choice and free-response test. At the end of the course, students will complete a final exam and submit two projects of their choice. The following is the point distribution that will determine a student's course grade:

Assignments	20%	200 points (Weeks 1 & 8, 10 points, Weeks 2-7, 30 points)
Chats	4%	40 points (8 chats, 5 points each)
Discussion	16%	160 points (40 questions, 4 points each)
Tests	30%	300 points (6 tests with 25 questions, 2 points each)
Final Exam	10%	100 points (50 questions, 2 points each)
Projects	20%	200 points (2, 100 points each)

Students will be working independently and communicating with their classmates and instructor in several ways. Students are encouraged to organize their folder in a way that will aid them in being able to complete work and access this information for assignments, discussions, test preparation and projects. Students will need to properly log in to be able to submit assignments and communicate using the chat tool and discussion board. Students will be expected to attend chats at set times but will structure their own time to complete and submit all

assignments, discussion responses and tests by the end of each week. Points will be deducted for late work. Active participation in the course includes the following each week: attending one scheduled chat, exploring lecture topics, doing required reading, completing and submitting assignments, submitting discussion responses and checking or responding to classmate and instructor responses on the discussion board, and taking and submitting a test. Students should expect to spend between ten and fifteen hours a week to complete this course. Specific details of how to log in properly, due dates, scheduled chat times and instructor contact information will be made available to the student upon registration for the course.

Parents are encouraged to follow student progress. They can preview the lessons, check their child's work and view his/her grade. Parents will be notified three times during the course of their child's progress. Parents, and students, can contact the instructor at any time and receive a response within twenty-four hours.

We hope you enjoy your Pre-Algebra B experience!
