

# Advanced Algebra Course Outline

## Teacher Information

**Teacher:** Mr. Brad Jones  
**Office Hours:** M,T,F 11:02-12:25 R 10:45-12:36 and before  
**School Hours:** M,T,R,F 7:24-2:12 W 7:24-1:12  
**School e-mail:** [brad\\_jones@idschools.org](mailto:brad_jones@idschools.org)  
**Website:** [sites.isdschools.org/bjones](http://sites.isdschools.org/bjones)

## Classroom Rules & Procedures

- ✓ Be prompt and prepared for class.
  - Bring supplies to class (book, paper, pencil, pen, notebook,...).
  - Stay seated throughout class.
  - Come rested and ready to work. (Your head will remain off the desk or you will stand)
  - Go to the bathroom before class.
  - Students will not leave classroom during class.(unless a dire emergency under my discretion)
- ✓ Be Respectful, Responsible
- ✓ Do not go behind Mr. Jones desk.
- ✓ **No food or drink in the classroom.**
  - You may have water in a clear bottle with a cap (not flavored/colored).
  - You may chew gum, but if I see it or hear it – you will lose that privilege.
- ✓ Do not write in/on the textbooks, desks or walls.
- ✓ Give 110% at all times.
- ✓ Ask Questions!!!! - If you need extra help or don't understand something it is your responsibility to let me know.
- ✓ Have fun and enjoy math.
- ✓ The bell does not dismiss you, Mr. Jones does.
- ✓ **No cell phones in class-** If I see(even hanging out of your pocket) it I take it.
- ✓ Homework/Hw Quiz will be 10%, Test/Quizzes/Projects/Notebook will be 75%, Attendance 15% of the final grade.
  - ❖ Rules and Procedures may be added or omitted at Mr. Jones discretion.

## Assignment Guidelines

- ✓ Papers with no name will not be graded.
- ✓ All work is to be done in PENCIL and grading in PEN.
- ✓ It must be legible and easy to follow. Don't run problems together. If I can't read it, it's wrong.
- ✓ Show all work. You must copy the problem (except word problems) and show enough steps to communicate your thought process. Partial credit may be given at any time. Using an answer book is considered cheating.
- ✓ No work will be accepted with a ragged edge from a spiral notebook.
- ✓ Suggested homework problems will be given and homework quizzes will be taken the next day in class

## Late work/ Attendance Policy

- ✓ **Late work will not be accepted.**
- ✓ You are responsible for getting the work from the website for when you were gone.
- ✓ A student must be gone two or more days right before the test in order to reschedule the test. You must reschedule the test in a timely manner or I will reschedule it.
- ✓ Homework quizzes will be made up the next class time.
- ✓ An attendance/participation grade is given daily. It is two points a day; 1 for being in the classroom, 1 for working hard during class time. Points can be made up by coming in at 6:50am for a study hall.

## Classroom Management Steps

- ✓ Verbal warning.
- ✓ Change of seating.
- ✓ 30min detention with Mr. Jones before school.
- ✓ Principal Referral.
  - ❖ Steps can be skipped or added where Mr. Jones feels necessary.

### Grading

100 – 93 %	A	82 – 80%	B-	69 – 67%	D+
92 – 90%	A-	79 – 77%	C+	66 – 63%	D
89 – 87%	B+	76 – 73%	C	62 – 60%	D-
86 – 83%	B	72 – 70%	C-	Less than 60	F

- ❖ Grades will include: Daily Homework, Quizzes, Test, Notebook, Participation, Research Papers, and Projects. Others may be added at Mr. Jones discretion.

### Skills and/or Competencies to be covered

Text: Blitzer Second Edition Pre-calculus, 2004

- ✓ Fundamental Concepts of Algebra: Real Numbers, Exponents, Algebraic and Rational Expressions, Radical and Rational Exponents, Polynomials, Factoring, Linear and Quadratic Equations, Linear Inequalities
- ✓ Graphs, Functions, and Models: Lines, Slope, Distance and Midpoint formula, Circles, Basic Functions and their Graphs, Transformations, Combinations and Composite Functions, Inverse Functions, Modeling with Functions
- ✓ Polynomial and Rational Functions: Complex Numbers, Quadratic Functions, Polynomial/Rational Functions and their Graphs, Dividing Polynomials, Zeros of Polynomials, Polynomial and Rational Inequalities, Modeling using Variation
- ✓ Exponential and Logarithmic Functions: Exponential/Logarithmic Functions, Properties of Logarithms, Exponential/Logarithmic Equations, Modeling
- ✓ Trigonometric Functions: Angles, Unit Circle, Right Triangle Trig, Trig Functions, Graph Sine/Cosine/Tangent, Inverse Trig Functions, Applications,
- ✓ Analytic Trigonometry: Trig Identities, Sum and Difference Formulas, Double-Angle/Half-Angle Formulas, Product-to-Sum and Sum-to-Product Formulas, Trig Equations
- ✓ Additional Topics in Trigonometry: Law of Sines, Law of Cosines, Polar Coordinates, Graphing Polar, Complex Numbers in Polar Form, Vectors, Dot Product
- ✓ Systems of Equations and Inequalities: Two Variables, Three Variables, Partial Fractions, Nonlinear, Inequalities, Linear Programming
- ✓ Matrices and Determinants: Linear Systems Solutions, Inconsistent/Dependent, Applications, Operations, Multiplicative Inverse, Equations, Determinants, Cramer's Rule
- ✓ Conic Sections and Analytic Geometry: Ellipse, Hyperbola, Parabola, Rotation of Axes, Parametric Equations, Conic Sections in Polar Coordinates
- ✓ Sequences, Induction and Probability: Summation Notation, Arithmetic, Geometric, Mathematical Induction, Binomial Theorem, Counting Principles, Permutation/Combinations, Probability
- ✓ Introduction to Calculus: Limits using Tables and Graphs, Properties of Limits, One-Sided Limits, Continuous Functions, Derivatives
- ❖ Topics may be added or omitted at Mr. Jones discretion.