

Welcome to  
Adv. Algebra II  
We are going to have a  
great year!

MRS. O'BRYAN  
ROOM 161

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<http://obryanmath.weebly.com>

859-381-3423 (FIFTH HOUR PLAN)

**You will:**

- Study linear, quadratic, and exponential functions
- Extend your knowledge of functions to include polynomial, rational, and radical functions

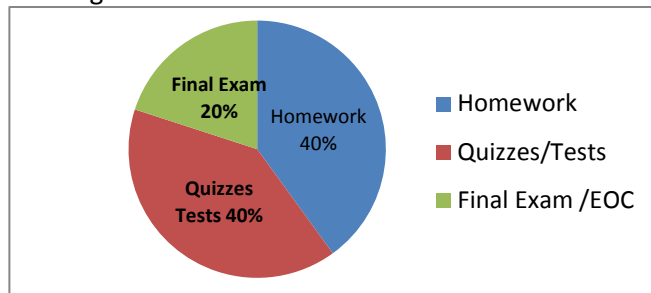
What will I take after Adv. Alg. II?

- Only students with a high B or A will be recommended for Adv. Pre-Calculus
- Other placements will depend upon grade level and ACT score
- If you are a freshmen and you are not recommended for Adv. Pre-Cal, you must repeat Adv. Alg. II. Algebra III is a junior/senior level course only.

**Classroom Rules**

1. Follow staff directions the first time
2. Come to class prepared
3. Be respectful to all people
4. Take care of our classroom
5. Work during all work time

**Grading**



**Food and Drinks**

Drinks must have a lid – no cans; Food – no sunflower seeds

Please do not let snacks become distracting

Please clean up after yourself

Note: Eating and drinking in class is a privilege that can be taken away if rules are not followed.

**What do I need for class?**

1. One 2-inch binder complete with notebook paper
2. Pencil and/or writing utensil
3. Calculator -**You CAN NOT USE YOUR CELL PHONE AS A CALCULATOR!**
4. Previous night's homework
5. Student Companion workbook-given out the second to third week of school



**Calculators:** We will use graphing calculators in class. I strongly suggest, but do not require, the purchase of a graphing calculator (especially for those students continuing on in more advanced math classes). If you intend to purchase one, I recommend and will be using Texas Instruments TI-84+. You may also check one out from the library. **Although a graphing calculator can be an incredible learning tool, there will be many times you will not be allowed to use them on tests.** For that reason you will need to have access to and be familiar with a standard scientific calculator. Please note that not having a graphing calculator will not excuse you from doing calculator required homework.





**CELL PHONE POLICY:** I know cell phones are important to all of us. However, there is a time and place for them and math class is not one of them. Your cell phone should not be out during class. This means you aren't checking the time, you aren't checking your texts, etc. You will not be able to charge your phone in my class so plan accordingly. My cell phone is put away as well. I will not ask you to do something that I won't do myself.

If you do not put your cell phone away during class, I will take it for the remainder of class (1st offense), turn it into the office and contact home (2<sup>nd</sup> offense), turn it into the office, write a referral, and contact home (3<sup>rd</sup> offense and higher). Parents please note that I will not hold your child's phone during my class at your request in order for your child to stay off their phone.

**Changing Grades:** Please know that I do not change semester grades once they have been posted unless there is an error on my part. I will do my very best to help you earn the grade that you want to earn. Your grade in Infinite Campus will reflect your hard work and what you have accomplished.

What to do when I'm absent:

1. Check my website <http://obryanmath.weebly.com>
2. Email me and I will email you the assignment
3. Get your worksheets from your class folder and copy the notes from a classmate (not during class time)
4. Make arrangements to get help from me before or after school.
5. Skipping class results in a referral and a zero on any of that day's work.
6. If you miss a test review day, you are still expected to take the test when you return since you did receive the review several days in advance.

**Note about make up work:** You have the number of days you missed plus one to turn in homework for full credit. Anything after that is half credit. I absolutely will not take homework after the unit test. The zero will remain. Check Infinite Campus weekly to see what you're missing. I attempt to update grades every Friday.

<p><b>Hall Pass Policy</b></p> <ul style="list-style-type: none"> <li>• 10-10 Rule: No one leaves the first or last ten minutes of class.</li> <li>• No hall passes during note taking or during tests</li> <li>• Abuse of the hall pass will result in not being able to use the hall pass</li> </ul>	<p><b>Tardy Policy</b></p> <ul style="list-style-type: none"> <li>• I follow the school rule and mark students tardy that are not in the classroom when the bell rings.</li> <li>• Excused tardies: show a note unless previous arrangements have been made.</li> </ul>	<p><b>Transferring to General</b></p> <ul style="list-style-type: none"> <li>• Students transferring to a <i>different level</i> of a course <u>during</u> the first six weeks of a course will NOT have a transfer grade follow them. Their grade will start fresh.</li> <li>• Students transferring <u>after</u> the end of the first six weeks <u>will</u> have their current grade transfer.</li> <li>• Students transferring to a <i>completely different</i> math course will NOT have a grade transfer (i.e. Calculus to Statistics, PreCalculus to Algebra 3, etc.</li> </ul> <p>Specific questions for individual cases should be directed to the Math Dept Chair.</p>
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<p><b>Homework</b> Homework (10 points per assignment) is assigned on a daily basis. It may be spot checked or collected and it graded for correctness and completeness. You must attempt ALL problems and show your work to receive full credit. You will be required to pre-read sections in your book, take notes, and attempt examples for homework. Homework is due at the beginning of the period when it is collected. After that, homework is not accepted.</p>	<p><b>Quizzes/Tests</b> Quizzes (25-50 points) are given regularly and may be unannounced. Tests (100 points) will be announced several days in advanced. We will always review the day before a test. If you miss the review, you are still required to take the test on the scheduled day. <b>All tests are timed. This means you must be done with your test when the bell rings (excluding 504 plans and IEPs). This is to prepare you for timed tests such as the End of Course Assessment, ACT, PLAN, and AP tests.</b></p>	<p><b>Participation</b> I expect that all students will participate while in class. Cell Phones have become a HUGE distraction in class. If your cell phone is out, I will ask you to place it on my desk for the remainder of the class. Consistent issues with cell phones will result in referrals. Also, working on other class work is not acceptable unless you have finished our class work and homework.</p>
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**What we will cover this year:**

- Perform operations with complex numbers or their conjugates
- Perform operations on functions, including function composition, and determine domain and range for each of the given functions
- Solve linear equations and linear inequalities containing absolute value, compound inequalities containing “and” and “or” and graph the solution set
- Solve a system containing three variables
- Solve a system of linear inequalities in two variables to find the solution set to the system
- Solve linear programming problems by finding maximum and minimum values of a function over a region defined by linear inequalities
- Solve quadratic equations and inequalities using various techniques, including completing the square and using the quadratic formula; include complex solutions
- Use the discriminant to determine the number and type of roots for a given quadratic equation
- Solve quadratic systems graphically and algebraically with and without technology
- Determine the domain/range of a quadratic function; graph the function with/without technology
- Use transformations to draw the graph of a relation and determine a relation that fits a graph
- Graph a system of quadratic inequalities to find the solution set to the system
- Identify conic sections from their equations in standard form
- Graph circles/parabolas and their translations from given equations/characteristics
- Determine characteristics of circles and parabolas from their equations and graphs and vice versa
- Evaluate and simplify polynomial expressions; solve polynomial equations
- Factor polynomials using a variety of methods (e.g., factor theorem, synthetic division, long division, sums and differences of cubes, grouping)
- Determine the number and type of rational zeros for a polynomial function and find the zeros
- Recognize the connection among zeros of a polynomial function, x-intercepts, factors of polynomials, and solutions of polynomial equations
- Use technology to graph a polynomial function and approximate the zeros, minimum, and maximum; determine domain and range of the polynomial function
- Solve mathematical and real-world rational equation
- Simplify radicals that have various indices
- Use properties of roots, radicals, and rational exponents to evaluate, add, subtract, multiply, divide, and simplify expressions
- Rationalize denominators containing radicals and find the simplest common denominator
- Evaluate expressions and solve equations containing  $n$ th roots or rational exponents
- Evaluate and solve radical equations given a formula for a real-world situation
- Graph exponential and logarithmic functions with and without technology
- Convert exponential equations to logarithmic form and logarithmic equations to exponential form
- Use the law of cosines and the law of sines to find the lengths of sides and measures of angles of triangles in mathematical and real-world problems
- Use the unit-circle definition of the trigonometric functions and trigonometric relationships to find trigonometric values for general angles
- Measure angles in standard position using degree or radian measure and convert a measure from one unit to the other
- Graph the sine and cosine functions with and without technology
- Determine the domain, range, period and amplitude of the sine / cosine functions, given a graph
- Use sine, cosine, and tangent functions, including their domains and ranges, periodic nature, and graphs, to interpret and analyze relations
- Use counting techniques to find the number of ways an event can happen.
- Find the probability of events(mutually exclusive, independent, dependent, conditional)
- Find the  $n$ th term or position of a given term in an arithmetic or geometric sequence
- Find sums of a finite arithmetic or geometric series and express in sigma notation
- Use addition, subtraction, and multiplication of matrices to solve real-world problems
- Calculate the determinant and inverse of a matrix
- Solve systems of equations by using inverses of matrices and determinants

## Parents Signature Page

Please read the syllabus and sign below. Please note that my email and school phone number are listed at the top of page one; use this information to contact me whenever you have a question or concern. Important things to know about my class:

- We have homework every day.
- If a student fails to turn in his or her homework when it is due, it is late and marked as a zero. They may turn it in one day late for half credit.
- I will email and send a remind(one-way text) message everyday with the day's notes and homework. If you would like to receive that email, email me and in the subject line write: Your child's name and hour I see them for class. You may also join remind and the instructions are at the bottom of page two.
- I attempt to update grades in Infinite Campus every Friday. Please check to see if there is any missing work.
- Absolutely no work can be turned in after a unit test. After the test it remains a zero in Infinite Campus.
- If your child takes a trip with school (excused absence), they have the number of days missed plus one to make up his or her work per Fayette Co. policy. Please make sure your child gets the necessary help and completes his or her work on time.
- Open House is September 7<sup>th</sup>
- Please have the supply list as soon as possible.

Suggested donated Materials: Pencils, glue sticks, post-its (all of sizes), Ziploc bags (sandwich size), binder clips. Thanks in advance for anything you can donate. It is greatly appreciated.

Finally, I will do everything I can to help your child succeed. Please email or call if you have any questions or concerns about your child and his or her progress in class. I believe that when parents and teachers are working together, that is when student achievement is at its highest. Please sign below and have your child return it for a homework grade. Thank you.

Student Name \_\_\_\_\_

Parent Signature \_\_\_\_\_

Comments: