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|  |  | Atherton High School 2016-17 |
| Advanced Algebra 2  Period 1 and 2 |  | Instructor: **Erin Murphy Schneider** Phone: (502) 485-8202 E-Mail: erin.schneider@jefferson.kyschoools.us Website: [www.schneideratherton.weebly.com](http://www.schneideratherton.weebly.com)  Follow me on twitter! @MsSchneider018 |
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| Course Description Building on Algebra 1 work with linear, quadratic, and exponential functions, this course introduces students to logarithmic, polynomial, rational, radical and trigonometric functions; as well as advanced techniques for solving algebraic equations and inequalities. Students continue to expand and hone their abilities to model situations and to solve equations, including solving systems of equations with matrices, quadratic equations over the set of complex numbers and solving exponential equations using the properties of logarithms. Additionally, students will have the opportunities to reinforce their Geometry skills. Students will hopefully develop an appreciation for the beauty of mathematics and a growth mindset that fosters confidence in their own problem solving abilities. Course Outline based on the KY Academic Standards **Fall**  **Spring**  Investigations and Functions Inverses and Logarithms  Transformations of Parent Graphs Matrices  Equivalent Forms and Rational Functions Polynomial Functions  Solving and Intersections Trigonometric Functions  Sequences Review Series  Exponential Functions Review Probability Review Methodology This course employs a problem-centered active learning approach, which is guided by three research-based principles: (1) Students engage in problem-based lessons structured around a core idea; (2) Guided by a knowledgeable teacher, students interact in groups to foster mathematical discourse; (3) Practice with concepts and procedures should be spread over time, mastery comes over time. Class activities include learning through discovery with cooperative learning using study team and teaching strategies, direct instruction with note taking, guided practice, class discussions, modeling simulated real world events with dynamic computer software and graphing calculator activities.  Growth Mindset: “Think about effort as a positive, constructive force, not as a big drag. Your brain actually grows as you learn from mistakes!” C.Dweck Student Evaluation  |  |  |  | | --- | --- | --- | | Grading Scale | | Explanation of Grades\* | | A | 90-100 | Student performs above standards. | | B | 80-89 | Student meets standards. | | C | 70-79 | Student is approaching most standards. | | D | 60-69 | Student performs below standards. | | U | Below 60 | Student performance is substantially below  standards. |   \*The student demonstrates proficiency in 3 identified algebra KAS each quarterly cycle (9 weeks), totaling to 12 content standards that must be mastered by the end of the course. *See* [*www.corestandards.org*](http://www.corestandards.org) *for more information.* Tests Individual tests are typically worth 100 points. You can expect a test about every three weeks. The best way to prepare for a test is by being an active participant with your study team in class (asking questions, explaining your thinking) and by completing your daily work and homework. Math Notebook You will keep all course work (notes, homework, quizzes, tests, etc.) organized in a folder or binder divided into 3 sections: (1)daily work, (2)notes, (3)year-long handouts & tests. Keeping your materials organized will help you maintain a sense of continuity and prepare for exams. You can see where we’ve been, where we’re going, and how the topics fit together. At the end of the year, your notebook will be a good resource for future reference.  **Expectations for SUCCESS:**   * Arrive on time—warm-up activities at the beginning of class will be missed. * Be prepared for class. This includes textbooks, paper, pencil, notebook, calculator & homework. * Respect yourself, the property and space of others. Encourage and listen to your classmates’ questions and responses in class. * Consistently make your best effort to participate in class and complete assignments. * Keep up with deadlines--see below to receive text messages.   **Tardies**—When the door is closed or the bell rings, you are tardy!  Warm ups and homework checks are missed. *Per Atherton HS policy:* After the last tone, students are only admitted to class with a note. Students without notes are to obtain a note from an administrator, AP office or the front office. This note may include notification for parents informing them that a detention was assigned for the unexcused tardy.  **Restroom/water policy:** You will get two passes per six weeks signed on your AHS student agenda for any locker, restroom, office needs. A 10 point bonus will be offered each six weeks if passes are not used. Use them wisely!  **Absence Policy:** The key to success in mathematics is regular attendance! Group activities and warm-ups & exit slips will be missed. You must bring a note from home or the doctor’s office to receive full credit on assignments missed or to make up quizzes and tests. Late work receives 70% credit.  ***student signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***  ***parent/guardian signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** |  | Textbook Core Connections Algebra 2, College Preparatory Mathematics (CPM Educational Program) Use this URL or QR code to get your eBook:  <http://tinyurl.com/SchneiderAlg2>  C:\Users\eschnei1\Downloads\qrcode.png Materials The following materials and textbook are expected to be with you every day in class:   * **Folder:** Two-pockets with center clasps or a three-ring binder   (with 3 divider tabs)   * pencil, paper and graph paper * **Calculator:** TI-84 plus CE graphics is recommended for the ACT and EOCA ($120), but a class set is provided at school **\*\*OR** a scientific calculator ($12) will be sufficient for homework * access to TCA Website (preparation for the ACT exam *in March-juniors only*)  Teacher Availability and Homework Help After school: Typically Wednesdays and/or Thursdays from 2:30-3:15. Please check with me that morning to confirm.   |  | | --- | | **10% - Student Engagement with Standards**: group work, warm ups, class discussion, math notebook, student reflection | | **30% - Student Progression Towards Standards**: 20% daily work, exit slips, short weekly assessments, team tasks  10% homework | | **60% - Student Mastery of Standards**:  40% from individual chapter tests and proficiency assessments, team projects and presentations  20% Midterm & End of Course Assessment (EOCA) given by the state |  Performance Standards Students will demonstrate proficiency in solving problems using the 8 Standards for Mathematical Practice as defined by KY Core Academic Standards (KCAS).   1. Make sense of problems and persevere in solving them 2. Reason abstractly and quantitatively 3. Construct viable arguments and critique the reasoning of others 4. Model with mathematics 5. Use appropriate tools strategically 6. Attend to precision 7. Look for and make use of structure 8. Look for and express regularity in repeated reasoning  Homework Expect about 20 minutes of homework every night. Homework is always due the following day unless otherwise noted.   * Attempt every problem. There is always something you can do, even if it is simply in writing down the information or questions about the problem. * Go to the Homework Help provided with your eBook. You are expected to ask about it in class and seek extra help if needed. * Clearly show all work. An answer alone is not sufficient. I want to see how you arrived at your response. * Check your answers, learn from your mistakes, and make sure the problems are complete. * Remember that mastery comes over time with lots of hard work and practice. |

