

Roanoke Valley Governor's School for Science and Technology
RVGS Algebra II
Syllabus 2023-2024

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I. Course Information

a. Course Description

Roanoke Valley Governor's School of Science and Technology (RVGS) Algebra II provides a thorough treatment of advanced algebraic topics through the study of function families and their properties by simplifying expressions, solving equations, graphing and analyzing functions and their inverses. Function families include absolute value, quadratics, power and polynomials, rational, radical, exponential and logarithmic, and sequences and series. Applications, modeling, and technology are incorporated into each instructional unit. The course also includes the study of statistics, probability, and data analysis to support the research elective courses at RVGS. Emphasis is placed on concept development and the proper use of mathematical vocabulary. Virginia Algebra II Standards of Learning are covered during the course.

b. Gifted Education Strategies

- 1. Understand the connections** between various mathematical representations: graphical, numerical, analytical, and verbal.
- 2. Communicate** mathematics both orally and in well-written sentences, including being able to explain one's solutions to problems.
- 3. Understand the validity** of the components involved in mathematical problem solving so that steps are not executed as a rote procedure.
- 4. Use technology** to help solve problems, experiment, interpret results, and verify conjectures.
- 5. Determine the reasonableness** of solutions, including sign, size, relative accuracy, and units of measurement.
- 6. Build foundational knowledge and skills** to foster success in future mathematics courses and in circumstances which occur outside a classroom setting.

c. Text, Printed Resources, and Media Resources

Carter et all (2012). *Glencoe Algebra 2*. Chicago, IL: McGraw- Hill Education

Larson, R. (2012). *Algebra and Trigonometry: Real Mathematics, Real People*. Belmont, CA: Brooks/Cole.

Sullivan, M. (2005). *Algebra and Trigonometry*. Upper Saddle River, NJ: Prentice Hall, Inc.

II. Grading Policy

a. Grading Scale

100-90%	A
89-80%	B
79-70%	C
69-60%	D
59-0%	F

b. Types of Evaluations

i. Semester Exam:

There will be one cumulative exam given at the conclusion of each semester.

ii. Tests:

Tests will be administered at the conclusion of each unit. These tests assess student understanding of concepts, application of skills, and broad connections between topics. All RVGS students who have completed RVGS Algebra II will take the state mandated Algebra II SOL during second semester.

iii. Quizzes:

Quizzes will be given to test for connections between objectives. You will find a list of competencies and enabling objectives online that you are expected to master in this course.

iv. Labs/ Cooperative Learning Activities/ Projects

A math lab is an activity (question, inquiry, or problem), which requires the use of higher order thinking skills and a written report. Such labs often make use of available technology for data collection and report preparation. These will be assigned at least once per semester. They will be completed independently or in groups based upon instructions. These labs may involve mathematical modeling, data collecting, and use of the computer and/or graphing calculators.

Labs will be evaluated using a rubric that will appraise methods, content, accuracy, conclusions, and format. Students may be involved in the designing of the rubric. A project is a long term assignment completed individually or in cooperative learning groups. These projects may involve mathematical modeling, problem sets, research, and the use of the computer and/or graphing calculators. These projects may be evaluated using a rubric.

v. Homework

Homework is an integral part of this course and it is extremely important that it be completed on time. You are expected to check answers when provided an answer key with the assignment before coming to class and make note of specific questions/problems you would like to review. Homework will be checked on a regular basis by various methods, including, but not limited to, asking you to exhibit proof that you worked on the assignment, asking you to write down your solution and work on an assigned problem and turning it in, or asking you to take a quiz on previously completed homework assignments, etc. Homework may be submitted one day late for half credit. After one day, it will not be accepted.

c. Semester Grade Determination

Category	Weight
Semester Exam	15%
Tests	35%
Quizzes	25%
Labs	15%
Homework	10%

d. Final Grade Determination

The final grade is the average of the two semester grades. Students who fail to maintain an average of 80% or above will be subject to the RVGS probationary policy.

III. Class Policies and Procedures

a. Absences and Tardies:

The policy in the RVGS student handbook will be followed.

b. Make-up Work:

It is the student's responsibility to be proactive in making up work missed due to absences. Students should meet with the teacher, make a list of missed assignments, and establish a schedule with deadlines to complete their makeup work. Students are reminded that a day at RVGS is equal to a day and a half to two days at any other school. Missing school can have a serious impact on the student's ability to keep up with the class. Per Governor's School policy, a zero will be given for any assignment missed unless accompanied by an "excused absence" slip from the office.

If an absence causes you to miss a quiz or test, it is your responsibility to make up the quiz or test as soon as you return but no later than four class days after your return. If you were absent the day immediately preceding a quiz or test, you should plan to take the assessment on the assigned day. If you have been absent for several days prior to a quiz or test, see your teacher to make arrangements to make it up.

c. Late-work Policy:

Lab/cooperative learning activities/projects may be accepted by your teacher up to four days after the established due date. Please be aware a "day" is considered a 24-hour period and not necessarily a school day. For example, an assignment due on Friday that is turned in on Monday is three days late as opposed to one. A 10% grade reduction will be assessed per "day" that the assignment is late. A zero will be given for assignments more than four days late.

Refer to the **Homework** section under **Class Policies and Procedures** for further information regarding late homework.

Cheating:

The policy in the RCPS student code of conduct will be followed.

d. Technology Policy:

The RCPS Acceptable Use Policy and the RVGS student handbook policy will be followed.

e. Extra help:

Extra help is always available from your teacher. It is important for you to arrange to meet with your teacher for help whenever you do not understand a concept or how to apply it (after a serious attempt to do so). The longer you wait the more problems develop; therefore, the Algebra II teachers urge you to seek help as soon as possible. You may send your teacher an email from your RVGS email account. Emails received before 3:30 p.m. Monday through Friday will be answered promptly.

Emails received outside of these times will be answered at your teacher's earliest convenience. If you fall behind in homework or other assignments, it is your responsibility to meet with your teacher and establish a schedule with deadlines to complete all overdue work. Balancing your workload will be a major challenge. If you think you are in trouble or need help, talk with your teacher or the RVGS counselor.

- f. Parent View:** Grades are available at all times through Parent View. When viewing your grades, understand that:
 - i.** A blank in the grade book means that the assignment has not yet been graded. Teachers will have all assignments graded within 5 school days of the due date (with the exception of very long assignments which will be graded within 10 school days). You may have a blank because the teacher has not graded the class set or because your assignment was turned in after the due date. Blanks do not count as zeros in your average.
 - ii.** A zero in the grade book means that you have earned a zero on the assignment. Cases in which this might occur include submitting incorrect answers to an assignment, submitting an assignment past the due date, or failing to turn in the assignment.
 - iii.** An excused (EX) in the grade book means that you are excused from the assignment without penalty.

- g. Interim Reports:** A hard-copy of your current grade will be given to you to take home three times during each semester (see dates on the school calendar). The interim report is a snapshot of the current class average. Please feel free to discuss your report with your instructor.

- h. Student Performance Strategy:** Interventions will be implemented at the teacher's discretion or in the event that the student's grade falls below an 80.

- i. General classroom procedures:**
 - 1. Class participation:**
 - a.** All students are expected to be engaged in the classroom discussion. This involves taking notes, asking questions, offering answers to teacher questions, listening carefully, contributing to group discussion and activities, etc.

b. Remember that RVGS students are held to high standards, both academically and behaviorally. Disruptive behaviors will not be tolerated. Parents, the guidance counselor, and the principal may be notified if problems occur in this area.

2. Classroom etiquette:

a. Take care of sharpening your pencil, using the restroom, buying snacks, and getting soft drinks prior to the beginning of class.

b. Bring your calculator to class every day. Always keep your calculator in excellent working condition.

c. The rules of common courtesy will be observed in the classroom at all times. When the teacher is speaking, students should be attentive and listening. Likewise, if one of your fellow students is speaking, you should provide them with the same courtesy and respect that you expect to receive. There is plenty of time to talk during the course of the day—make sure you choose appropriate times to do so.

d. All book bags should be stored in a designated place in the classroom—bring only necessary class materials to your desks (no book bags on the floor around the desks).

e. At the end of class, wait for instructions from your teacher to stop working and to prepare to leave class. Remain seated until dismissed.

3. Assignment record:

Use your student planner to keep a record of your assignments and due dates. You are responsible for makeup work. You are responsible for checking your email and the course calendar for your teacher on a daily basis, as well as referring to Canvas class page for supplemental resources and information.

4. SEC Notification:

Per Virginia Code (§ 22.1-16.8), parents must be aware of the use of any instructional materials with explicit content. No explicit materials are used in this course.

5. Math notebook:

You will need to maintain an organized 3-ring notebook with dividers and contain items related only to RVGS Algebra II. All work must be done on loose-leaf paper. Make sure to keep plenty of loose-leaf paper in your notebook. It is recommended (not required) that your notebook contain the following sections:

- 1.) Notes
- 2.) Homework
- 3.) Labs/cooperative learning activities/projects
- 4.) Quizzes/Tests
- 5.) SOL Review Materials

6. Homework:

- a. Homework is an opportunity to practice the concepts and skills learned in class. You must keep up with the homework assignments or you will be unable to participate effectively in activities.
- b. Complete your homework using a # 2 pencil and show all work to support your answers. Your work should be well organized, neat, and easy to read.
- c. Start each assignment on a clean sheet of paper labeled with your name, the date, the correct page number(s), and problem number(s).
- d. You are expected to spend approximately 20 minutes per homework assignment for this course. You are expected to attempt and complete the assignment to the best of your ability. If you have not completed the assignment at the end of 20 minutes, this is an indication that you need help from your teacher. It is your responsibility to notify your teacher that you need help and to make arrangements for help outside of class.
- e. Homework may be assessed using any of the following methods but not limited to: exhibit proof that you worked on the assignment, asking you to write down your solution and work an assigned problem and turning it in (grading will reward effort toward completion rather than correctness of the final result), asking you take a quiz on previously completed homework assignments (grading will reward correctness of the final result), or a homework quiz consisting of problems similar to the problems from homework assignments (grading will reward correctness of the final result).

f. Homework assignments are posted on your teacher's calendar on the RVGS webpage which is also accessible through Canvas class page.

7. Labs/Cooperative Learning Activities/Projects:

a. When working in groups, it is important that you fully participate and complete your group responsibilities to the best of your ability, complete assignments on time and be ready to discuss them with the group, and make positive contributions to your group.

b. Use group time productively. Stay on task. These types of activities tend to require time outside of class. You are responsible for communicating with your group members for equal input on the assignment.

c. Your contributions to the assignment may be assessed by both your teacher and your group members.

d. Lab reports are due on the due date regardless of whether all members of the group are present. Each student should keep copies of group assignments in the event that other group members are absent.

8. Cell phones:

The policy in the RVGS student handbook for cell phones and electronics will be followed. If parents need to contact a student during class, they should call the front office.