

# Gateway STEM High School

*Learners Today, Leaders Tomorrow!*



## ADVANCED ALGEBRA 350

### COURSE SYLLABUS

2021-2022

**INSTRUCTOR:** Mr. CERIC Jasmin, M.Ed.

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**PLANNING PERIOD:** 2<sup>nd</sup> and 7<sup>th</sup>

**ROOM:** 201 south/ONLINE

### COURSE FRAMEWORK:

In this course students will extend understanding of variables, algebraic expressions, equations, functions, inequalities, and their multiple representations. Additionally, course will introduce to new concepts, needed for future careers, such as logarithmic and trigonometric functions, conic sections, probability and statistics. Students will further develop their ability to explore and solve real-world application problems, demonstrate the appropriate use of graphing calculators, and communicate mathematical ideas clearly. Students are expected to study and tackle problems that are more challenging and explore advanced topics. Good discipline and completing practice is a must in order to pass this course

- Use the language of functions to describe, interpret, and analyze graphs to model real-world data.
- Use algebraic properties of functions to describe, interpret, and analyze graphs to model real-world data.
- Develop and solve systems of linear equations and inequalities to model real-world problems.
- Describe, interpret, and analyze quadratic functions to model real-world data.
- Determine the complex solutions of quadratic equations.
- Describe, interpret, and analyze exponential and logarithmic functions to model real-world data.
- Describe, interpret, and analyze radical functions to model real-world data.
- Describe, interpret, and analyze rational functions to model real-world data.
- Describe, interpret, and analyze polynomial functions using technology to model real-world data.
- Model data using linear, quadratic, power, exponential, logarithmic, and polynomial functions.
- Understand basic principles of probability and statistics and how to use them to interpret data
- Be familiar with trigonometric functions and applications in engineering, aviation and other fields

### COURSE OUTLINE: FIRST SEMESTER

1. Linear Functions and Systems
2. Quadratic Functions and Equations
3. Polynomial Functions
4. Rational Functions
5. Rational Exponents and Radical Functions
6. Exponential and Logarithmic Functions

### SECOND SEMESTER

7. Trigonometric Functions
8. Trigonometric Equations and Identities
9. Conic Sections
10. Matrices
11. Data Analysis and Statistics
12. Probability

- Depending on needs, order of topics may be adjusted at any time during the semester based on teacher's decision. We may mix and match similar topics into one unit

REQUIRED MATERIALS:	REQUIRED TECHNOLOGY/SOFTWARE:
<ul style="list-style-type: none"> <li>• Notebooks</li> <li>• Pencil and mechanical pencil</li> <li>• 2 Pocket Folder</li> <li>• mechanical pencil, ruler, compass and graphing paper</li> <li>• small calculator (for exams only)</li> </ul>	<ul style="list-style-type: none"> <li>• COMPUTER</li> <li>• School e-mail</li> <li>• Microsoft Teams</li> <li>• Zoom Video</li> <li>• Desmos</li> <li>• Geogebra</li> </ul>

### CLASSROOM EXPECTATIONS/POLICIES:

- 1. AWARE-** Listen and follow directions. You are in school! Listen, watch, write and learn! Use this opportunity.
- 2. EFFICIENT** – Keep hands, feet and objects to yourself. Drivers use signal lights, we raise our hand.
- 3. KIND** - Be polite. Wait until person finishes the sentence. Don't yell, scream, interrupt, or use profanity.
- 4. CONFIDENT** - Don't be embarrassed, or hide if you don't understand something. This is YOUR time to learn. Communicate what you need clarified at appropriate time.

### GRADING SCALE/POLICY:

#### Semester Grade

Assignments	Descriptions	Value
Summative	<u>Topic tests, Examination at the board, Projects, Unit Tests</u> Tests 54%, Final Exam 10%	= 64%
Formative	Classwork, Homework, Exit Tickets, Quizzes, Verbal response	= 36%
		<b>TOTAL = 100%</b>

#### Grading Scale (issued by the district)

A—90-100	The student's work is exemplary and is completed in a timely and independent manner. The work shows a high level of understanding or performance.
B—80-89	The student's work is above average and has been completed in a timely and independent manner. The work shows a clear level of understanding or performance.
C—70-79	The student's work is satisfactory and may or may not be completed in a timely/independent manner.
D—60-69	The student's work barely meets requirements and work is not completed in a timely or independent manner.
F—0-59	The student's work does not meet the minimum standards of understanding or performance or work is not the student's personal best.

Parents may have internet access to their student's grades and assignments, upon Administrative approval at

<https://sis.slps.org/SLPS/Default.aspx>

### **NO TEST MAKE-UPS OR RETAKES WITHOUT VALID REASON**

If student is absent for a valid reason, student is eligible to make up only summative tests if absence can be verified. Students who do not provide reason for absence will not be eligible for make up. Student must make up the test immediately upon return and no later than one week after the original test date. There are no retakes or make-ups on any quizzes, homework or exit tickets.

### **LATE ASSIGNMENTS:**

Late homework and assignments will not be accepted unless student was sick or . in special cases, teacher may decide to not count missing homework if student can make it up in class.

### **STUDYING AND NOTE-TAKING:**

It is entirely student's responsibility to study notes, materials, books or online resources including videos assigned by teacher. There will be times where teacher will assign certain notes to be completed as homework or assign an online video to watch or chapter to

read. In such cases teacher may skip notes altogether and use entire class period for practice only. Teacher will not waste time writing notes from the book if student did not copy notes that were assigned for the homework.

## **HOMEWORK:**

Homework will be assigned every class period and can be in different forms and lengths. Teacher will not always grade the homework for accuracy but more for completion because this is students' responsibility and part of the review. Students should correct their mistakes during the homework review in class and come prepared to ask a question about the problem. Students are expected to try all problems and no credit will be given if student comes with blank homework or excuse "I did not know what to do" because teacher will always assign types of problems discussed in class. Most of the problems will have answer but it is students' responsibility to study and show work. No credit will be given for copying down correct answers without work shown.

## **ACADEMIC INTERVENTION:**

Any student who is lacking basic mathematical skills will be referred to administration and counselors and parents will be notified in case that student does not meet standards for the class. Remedial assignments will be offered within first few weeks of school. If student does not catch up with material teacher will contact counselors with recommendation for class change.

## **ASSIGNMENT DESCRIPTIONS**

### **Do now:**

Every morning, students will have some type of problem on the board. Once the bell rings, students should work quietly for approximately 5 minutes while teacher takes attendance. Teacher does not provide any help for the assignment during that time. After do-now is done, teacher will pick student to go to the board and explain the problem. Students who do not work or attempt to finish will not receive any credit for do-now. Do now counts in the same category as quiz.

### **Exit ticket:**

Exit ticket is a small quiz usually given right after the new lesson in order to check student's understanding of the new material. Exit tickets are given frequently and can take different forms but usually are short assignments that take 5 to 10 minutes to complete. Exit ticket has a weight of a mini quiz.

### **Quiz:**

Quiz is given weekly to check student's progress after new lesson and practice. Some quizzes will be open-book quizzes and some not. Quizzes usually take around 15-30 minutes and prepare students for tests.

### **Test**

Test are different in lengths and count for the 60% of overall grade. Test may be given in the middle of the chapter or at the end of the chapter. In general, notes are not allowed on the tests unless teacher approves it. Tests typically take from 30 minutes to 60 minutes

### **Unit test**

Unit test is usually a midterm test that covers material from several chapters and takes entire class period to complete. Students should take this type of test as the most serious test that impacts their grade.

### **Verbal (on board) exams:**

Students will have at least one random "pop" summative exam whereby teacher calls student to the board and assigns type of a problem similar to what has been covered in the class. Exam will usually be anywhere from 5-10 minutes long and may include oral examination where student has to justify the work as well as written exam on the board. This exam will have weight of the test. Students are expected to study and be ready to be called on any given day. Students who refuse the exam will receive 0%. Students who receive poor grade will have one opportunity to retake verbal exam but it will not be announced so students need to be prepared all the time. Any attempts to get help from class will result in failing grade.

### Work in class/Participation/Presentation/Group Work/Extra Work

Occasionally there may be projects or problems to be presented by group of students. Grades given for this type of work and for general participation can count as additional bonus. Teacher will take note of such work and then add extra percentage when giving grade in case students miss few percent. This grade is completely up to the teacher and not subject to discussion.

### Grade Adjustments

Earned grade is always recorded accurately. In certain cases, where teacher determines that alternative assessments is necessary in order to ensure equity and respond to student readiness, teacher may adjust grade according to his discretion and it will be recorded in SIS as such.

### **ACADEMIC INTEGRITY/ PLAGIARISM:**

The integrity of the academic program and the evaluation of each student's achievement are of primary concern to educational institutions. Cheating on an educational exercise not only reflects dishonesty on the part of the student, but also diminishes the value of the work done by his/her classmates. Students who cheat or plagiarize (using another's words, ideas or writing as one's own) shall be subject to the following: a zero recorded for the exercise and if behavior continues, a referral to administration.

### **OTHER RULES AND PROCEDURES:**

#### **Virtual Learning Etiquette Gateway STEM High School 2020-21 School Year**

- Arrive to live class meetings on time, or a few minutes early.
- Keep microphone on mute, unless participating in a discussion, asking/answering a question, or presenting.
- Make sure you are in a quiet area. Limit background noise and other distractions.
- Wear appropriate attire. Upper body must be covered and images/words on clothing should be school appropriate.
- Background and surrounding area should be clear of distracting items. Items that can be seen in video should be school appropriate.
- Use school appropriate language/gestures when speaking or posting messages.
- Messages sent to peers should be related to the content and should follow guidelines set by teacher.

### ***ABSENCE (PENDING DISTRICT'S CLARIFICATION ON WHAT CONSTITUTES ABSENCE IN VIRTUAL ENVIRONMENT)***

- 1. Students are responsible for the work they missed due to the absence.*
- 2. If your absence was excused, missed work will be accepted. If your absence was not excused, late work will not be accepted.*
- 3. If you missed a test it is your responsibility to schedule the time for makeup. Quizzes are not eligible for retakes*