



Intermediate Algebra (DL 2020-21)

MYP Level 3

Instructor: Mr. Ghebregzi

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I. Course summary

This is a high school algebra course that meets MYP Aims and Objectives and the priority standards for algebra selected from the Minnesota Mathematics Standards.

The course incorporates the MYP fundamental concepts of holistic learning, intercultural awareness and communications, in that connections between mathematics and other subjects are emphasized. The IB learner profile is used as a guide in developing and implementing the curriculum. The cultural aspects are shown in that mathematics is embedded in all cultures.

Focus will be placed on inquiry and reflection, which enables students to better develop, understand, and apply and algebraic concepts. This course will extend from polynomials, through quadratic and exponential functions, as well as developing mathematical reasoning. Finally, students are expected to be able to show what they know in a variety of manners.

II. Units of Study

Chapter 4: Functions: How are functions represented?

Chapter 5: Linear Functions: What do slopes and intercepts tell us about a linear function? (AOI: Health and Social Education)

Chapter 6: Systems of Equations and Inequalities: How is graphing linear inequalities different from graphing linear equations? (AOI: Health and Social Education)

Chapter 7: Exponents and Polynomials: How are exponents used to simplify expressions? (AOI: Approaches to Learning)

Chapter 8: Factoring Polynomials (AOI: Approaches to Learning)

Chapter 9: Quadratic Functions and Equations (AOI: Human Ingenuity)

Chapter 10: Data Analysis and Probability: How are data and probabilities represented? (AOI: Action)

Chapter 11: Exponential and Radical Functions: How are exponential functions used to solve problems?

(AOI: Environments)

III. Standards and IB MYP Aims

The state standards identified as priority standards by St. Paul Public Schools in Algebra are:

- 1) Understand the concept of function and identify important features of functions and other relations using symbolic and graphical methods where appropriate.
- 2) Recognize linear, quadratic, exponential and other common functions in real-world and mathematical situations; represent these functions with tables, verbal descriptions, symbols and graphs; solve problems involving these functions, and explain results in the original context.
- 3) Generate equivalent algebraic expressions involving polynomials and radicals; use algebraic properties to evaluate expressions.
- 4) Represent real-world and mathematical situations using equations and inequalities involving linear, quadratic, exponential and n^{th} root functions. Solve equations and inequalities symbolically and graphically. Interpret solutions in the original context.
- 5) Display and analyze data; use various measures associated with data to draw conclusions, identify trends and describe relationships.
- 6) Calculate probabilities and apply probability concepts to solve real-world and mathematical problems.

The MYP aims of teaching and learning mathematics include encouraging students to:

- 1) Appreciate the usefulness and power of mathematics
- 2) Enjoy math and develop perseverance
- 3) Be able to communicate using mathematical notation
- 4) Develop knowledge, and thinking skills
- 5) Recognize the presence of mathematics in their lives

Over the course of the year students will achieve the MYP objectives of:

- 1) Acquiring knowledge and understanding
- 2) Be able to recognize and investigate patterns
- 3) Communicate effectively using mathematical language and notation
- 4) Reflect upon their work and conclusions.

IV. Text/Resources/ Supplies

1. Holt Algebra 1 textbook in PDF chapter files provided in a RED folder in the course materials on Schoology titled: Algebra 1 textbook.
2. SPPS issued iPad.
3. Students must supply a notebook/folder dedicated to the course as well as pen/pencil
4. A scientific calculator is needed. Student issued iPads provide both MCA scientific and graphing calculators
5. A supply of graph paper, a ruler, colored pencils, highlighters/markers may be helpful.
6. Availability of in-home items for hands-on examples and learning.

V. Methods of Assessment

Grades will be given at the conclusion of each quarter with 1 progress grade given over the course of the semester. Grades will consist of 70% summative assessments and 30% formative assessments, as stated by the Highland Park Senior High Grading Policy. The assessments will be based upon the aforementioned objectives and will include the MYP assessment criteria.

In this class, students will complete a variety of IB MYP assessments such as broad-based exams, group problems, written reflections, quizzes and projects. Assessments like these give students a chance to show their understanding and skills, and in turn, these assessments give teachers useful information, which can be shared with students and families to help improve learning. Students are evaluated in four different areas with IB MYP rubrics for this class:

Criterion A	Knowing and Understanding	-Select appropriate mathematics when solving problems in both familiar and unfamiliar situations -Apply the selected mathematics successfully when solving problems -Solve problems correctly in a variety of contexts.
Criterion B	Investigating Patterns	-Select and apply mathematical problem-solving techniques to discover complex patterns -Describe patterns as general rules consistent with findings -Prove, or verify and justify, general rules.
Criterion C	Communication in Mathematics	-Use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations -Use appropriate forms of mathematical representation to present information -Move between different forms of mathematical representation -Communicate complete, coherent and concise mathematical lines of reasoning -Organize information using a logical structure.

Criterion D	Applying Mathematics in a Real-Life Context	<ul style="list-style-type: none"> -Identify relevant elements of authentic real-life situations -Select appropriate mathematical strategies when solving authentic real-life situations -Apply the selected mathematical strategies successfully to reach a solution -Justify the degree of accuracy of a solution -Justify whether a solution makes sense in the context of the authentic real-life situation.
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IB MYP rubrics use an 8-point international scale, with 8 representing “excellent achievement” and 1 representing “limited achievement.” When these assessments will be counted toward students’ grades in the class, they will be converted to a standard A, B, C, D, N scale and the point value will appear on the rubric. Parents & guardians, please ask your student to share their rubrics with you.

Please also see Highland Park Grading and Assessment Policy on the Highland Park Senior High Webpage for additional information about assessment.

VI. Other course information

Students will be expected to adhere to the following classroom principles:

1. Respectful – I will demonstrate respect for myself, others, school, and the community whether in person or online
2. Responsible – I will be a responsible for myself and as a member of the school community to put forth the effort to develop my own and my classmates’ independent learning skills.
3. Safe – I will help create a school environment where every student feels safe
4. Engage- I will initiate effort and work to thrive in the current classroom and I will ask for help as needed

Assignments will be given daily and students should be creating habits of checking Schoology Course folders and notifications frequently to complete the work. Formative and Summative Assessments will be checked for completion and correctness in various manners.

All Highland Park grading and assessment policies will be followed as well as the school wide policies. The creation of daily plans and activities will be designed primarily for access via student issued iPads. **The use of personal devices like cell phones will not guarantee access to the materials.**

Teaching and Learning this year is **accessible** and **flexible**. Since our year will begin with Distance Learning (DL) we need to accept that we need to put forth more effort and work to get to know each other. Our **synchronized (LIVE)** classroom using Google Meets) schedule will allow us to begin this work. Families need to help their student find a quiet place during these LIVE meeting times to allow your student to fully engage in the activity. Multitasking is not effective.

Asynchronized (NOT LIVE) learning will be available in the form of textbook assignments, note-taking, video viewing, worksheets and other activities. Although these learning opportunities may make you feel overwhelmed and at times you may feel lost and on your own, you are not. Please take a minute to breathe or reposition yourself or just put the work aside and take a walk. You are experiencing the part of your learning that is called the STRUGGLE. When you are able to comeback, try it again on your own. If you feel like it is still not making sense connect with someone, perhaps a family member, a friend or email your teacher.

Need Help??

I will make myself available for help before or after school. The best way to notify me is through email. Email me as needed: yonas.ghebregzi@spps.org Please check my office hours for the schedule for that day on Schoology. You may also call me at this number: (651) 301 8233 and/or leave a message. I will try to check messages by 4 PM daily. Please leave a number that I can reach you at. When I return a call to you it may appear as an “unknown” caller.

Remember it is my job to help you navigate this learning. I am not online 24/7, so if you email me or call me, I may not respond to your request immediately, but I will ASAP. I will do everything in my power to help you succeed...all I ask is that you do the same for yourself and others!