



## **COURSE SYLLABUS**

### **Algebra 150**

**2021-2022**

<b>INSTRUCTOR:</b>	<b>Mrs. Liza Wynn</b>
<b>CLASS SCHEDULE:</b>	<b>10:40 – 11:37</b>
<b>CLASS LOCATIONS:</b>	<b>203 / 2<sup>nd</sup></b>
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<b>E-TEXT:</b>	<b>enVision Algebra</b>

## **COURSE DESCRIPTION**

**Algebra 150** is the subsequent course to Basic Mathematics. This course is an introductory algebra course. The following concepts are introduced and reinforced: Solving equations and inequalities, linear equations, linear functions, systems of linear equations and inequalities, exponents and exponential functions, polynomials and factoring, quadratic functions, solving quadratic equations and working with functions.

## **RATIONALE**

The rationale for offering **Algebra 150** is to provide students with a foundation for success in subsequent mathematical courses. This course serves as a prerequisite for Geometry 250.

## **COURSE OBJECTIVES**

Students who have successfully completed **ALGEBRA 150** will be fully prepared for subsequent mathematics courses.

At the conclusion of **ALGEBRA 150**, students will be able to:

- Solve algebraic equations and inequalities.
- Solve linear equations in slope intercept form, point slope form and standard form.
- Understand relations and functions.
- Solve systems of equations by graphing, substitution and elimination.
- Solve systems of linear inequalities.
- Understand piecewise functions, including the absolute value function, step functions.
- Understand exponents and exponential functions.

## **COURSE KNOWLEDGE BASE**

The goal of **Algebra 150** is to preserve and make possible educational opportunities for each postsecondary learner; to develop in each learner the skills and attitudes necessary for the attainment of academic career and life goals; and to promote the continued development and application of cognitive and affective learning theory. This course is designed to give a thorough treatment of topics in **Algebra 150**, necessary for success in subsequent math courses. The course goals are aligned with the principles and standards of the Missouri Learning Standards.

## **Common Core State Standards for Secondary Mathematics (Algebra)**

Every student should be able to:

- **Interpret the structure of expressions**
- **Write expressions in equivalent forms to solve problems**
- **Perform arithmetic operations on polynomials**
- **Understand the relationship between zeros and factors of polynomials**
- **Create equations that describe numbers or relationships**
- **Understand solving equations as a process of reasoning and explain the reasoning**
- **Solve equations and inequalities in one variable**
- **Solve systems of equations**
- **Represent and solve equations and inequalities graphically**

## **PROGRAM ORGANIZATION:**

At the secondary level, the structure of the Missouri Learning Standards for Mathematics puts a strong emphasis on mathematical modeling. Not only is there a Standard for Mathematical Practice that highlights modeling with mathematics, but one of the Conceptual Categories in High School Mathematics is devoted to the modeling process. This process, teased out in detail in the GAIMME (Guidelines for Assessment and Instruction in Mathematical Modeling Education) Report, is an iterative process in which students think through a mathematical model for a given real-world phenomenon, apply the model, analyze, and assess the solution, and then iterate on the model as needed.

Our program is established to engage students in the mathematical modeling process. The four steps include:

1. Exploration
2. Conceptual Understanding and Application
3. Practice
4. Problem Solving

All aspects of the program are founded upon the Missouri Learning Standards for Mathematics. The architects of the Missouri Learning Standards targeted three key shifts for secondary mathematics courses:

1. **Focus** - *Deepening and expanding students' understanding of important math concepts and developing students' proficiency with applying mathematics to new situations.*
2. **Coherence** - *Helping students make sense of math by seeing the connections between and among concepts both within a course and across courses.*
3. **Rigor** - *Deep authentic command of mathematical concepts.*

## **CLASS PROCEDURES**

- Attendance and punctuality to class sessions are essential and required. Inconsistent attendance can affect conceptual understanding and performance in a class. Students are expected to be punctual. A record of each student's attendance, tardiness and early departure will be recorded. Excessive unexcused absence may lower a student's grade.
- Students are responsible for obtaining information in reference to missed content when they miss a class. The teacher or classmates should be contacted to find out what was missed.
- Students will gain access to the **enVision** platform in order to access their E-texts and assignments. The teacher will provide the access information.
- It is strongly suggested that students **read** their **E-texts** as support for their ongoing learning and assignment completion.
- Students may utilize calculators with basic arithmetic functions.

- Each student must have access to **enVision**. This complete online process contains an online version of the textbook with links to multimedia resources, including video clips, practice exercise, etc. Students should find this added support helpful in mastering the concepts.
- A pre-test will be given at the beginning of the course and a final exam will be given at the conclusion of the course. Both of these exams are course requirements.
- Students must demonstrate mastery with a score of 70% or higher on all **Homework Assignments**.
- Students must demonstrate mastery with a score of 70% or higher on all **EXAMS**.
- Students must demonstrate mastery with a score of 70% or higher on all **QUIZZES**.
- On all exams and quizzes, ***all steps must be shown*** in the student's work.

## **COURSE EVALUTAION AND GRADING**

Students in **ALGEBRA 150** will earn grades ranging from A through F. Grading is based on tests, the final exam, effort, and attendance.

The **grading distribution** is as follows:

<b>ITEM</b>	<b>% OF TOTAL POINTS</b>
<b>HOMEWORK</b>	<b>10%</b>
<b>QUIZZES</b>	<b>40%</b>
<b>TESTS</b>	<b>40%</b>
<b>FINAL EXAM</b>	<b>10%</b>
	<b>100%</b>

The **grading scale** is as follows:

<b>GRADE</b>	<b>%</b>
<b>A</b>	<b>90% - 100%</b>
<b>B</b>	<b>80% - 89%</b>
<b>C</b>	<b>70% - 79%</b>
<b>F</b>	<b>Below 70%</b>

**Note:** Policies are always subject to change depending on circumstances at the teacher's discretion.

## **RULES AND REGULATIONS REQUIREMENTS**

***All students are required to adhere to the guidelines and expectations set forth in the St. Louis Public Schools Student Code of Conduct Handbook.***

## **POSSIBLE CHANGES**

**This syllabus is subject to change, at the discretion of the instructor. The instructor will inform students of all changes.**

## **REFERENCES**

Missouri Learning Standards, Missouri Department of Elementary and Secondary Education, Mathematics Curriculum, (2020)

<https://dese.mo.gov/college-career-readiness/curriculum/mathematics>

Common Core State Standards Initiative, High School Algebra,

<http://www.corestandards.org/Math/Content/HSA/>

National Council of Teachers of Mathematics:

<https://www.nctm.org/Standards-and-Positions/Principles-and-Standards/Geometry/>

Author (2008). Teaching With Technology. *Mathematics Teacher*, Volume 101, Issue 7, page 549.

Achievement Gaps in Developmental Studies in Mathematics: A View of Community College Students. Linda Serra Hagedorn, PhD. University of Florida.

[http://www.ets.org/Media/Research/pdf/conf\\_achgap\\_cc\\_hagedorn.pdf](http://www.ets.org/Media/Research/pdf/conf_achgap_cc_hagedorn.pdf)