COURSE SYLLABUS

<u>Geometry 250</u>

2021 - 2022

INSTRUCTOR: Mrs. Liza Wynn

CLASS SCHEDULE: 1:10 – 2:07

CLASS LOCATIONS: 4th period: 203

E-MAIL: liza.wynn@slps.org

TEXT: EnVision Geometry

Contact Phone: 314-623-5665

<u>**COURSE DESCRIPTION**</u>

Geometry 250 is the subsequent course to Algebra 150. This course is a compilation of basic geometry concepts. The following concepts are introduced and reinforced: Measuring segments and angles, basic constructions, mid-point and distance, Inductive Reasoning, Mathematical Modeling, Conditional Statement, Deductive Reasoning, Writing Proofs, Indirect Proofs.

RATIONALE

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

COURSE GOALS

The goals of **GEOMETRY 250** are to enable students to:
- Measure segments and angles
- Complete basic geometric constructions
- Understand patterns and relations
- Engage in Inductive and Deductive reasoning and conditional statements
- Use visualization and spatial reasoning.
- Organize and consolidate their mathematical thinking through communication.
- Use mathematical models to represent and understand quantitative relationships.
- Analyze change in various contexts.

COURSE OBJECTIVES

Students who have successfully completed **GEOMETRY 250** will be fully prepared for subsequent mathematics courses.

At the conclusion of **GEOMETRY 250**, students will be able to:

- Measure segments and angles.
- Complete basic geometric constructions
- Understand patterns and relations
- Engage in Inductive and Deductive reasoning and conditional statements
- Use visualization and spatial reasoning.
- Organize and consolidate their mathematical thinking through communication.
- Use mathematical models to represent and understand quantitative relationships.
- Analyze change in various contexts.

CTM EXPECTATIONS for Secondary Mathematics (Geometry)

Every student should be able to:

- Analyze characteristics and properties of two-and-three dimensional geometric shapes and to develop mathematical arguments about geometric relationships.
- Specify locations and describe spatial relationships using coordinate geometry and other representational systems.
- Apply transformations and use symmetry to analyze mathematical situations.
- Use visualization, spatial reasoning, and geometric modeling to solve problems.

ROGRAM 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** - D*eep 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 E*nvision.* 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 **GEOMETRY 250** 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:

ITEM	% OF TOTAL POINTS
HOMEWORK	15%
QUIZZES	30%
TESTS	40%
FINAL EXAM	15%
	100%

The **grading scale** is as follows:

GRADE	%
A	90% - 100%
B	80% - 89%
C	70% - 79%
F	Below 70%

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

RULES AND REGULATIONS REQURIEMENTS

Metro High School is committed to graduating students who are prepared to think critically, to act ethically, and to assume responsibility as citizens and leaders. The highest standards of integrity and good behavior are expected from our students. ***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 Geometry,
http://www.corestandards.org/Math/Content/HSG/

Venema, Gerard, (2012). *Foundations of Geometry* (2nd ed.). Pearson.

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