**Metropolitan Business Academy**

**Geometry Course Syllabus**

**Teacher Contact Info:**

Amy Langley

[amy.langley@nhboe.net](mailto:amy.langley@nhboe.net) or [mba.langley@gmail.com](mailto:mba.langley@gmail.com)

[http://geometryatMBA.weebly.com](http://geometryatmba.weebly.com)

**Course Overview:**

Geometry is the study of the size, shape and position of two and three dimensional figures. Geometry is found everywhere, and is often used daily without even realizing it. Just like in previous math courses, the skills taught in geometry will be crucial for success in future math classes and in life. The units we will cover are as follows: **Proof, Parallel, and Perpendicular Lines\*;** Transformations, Triangles, and Quadrilaterals; **Similarity, and Trigonometry\***; Circles and Coordinates; \***Extending Two Dimensions to Three Dimensions**\*; Probability. (**Of note: \* denotes a major focus of the course)**

**Course Standards:**

|  |  |
| --- | --- |
| **1. Problem Solving and Critical Thinking in Mathematics** | Students can apply processes to define, evaluate and solve complex problems in math. |
| **2. Clear and Effective Communication in Mathematics** | Students can clearly convey meaning and ideas about math to varied audiences using different modes. |
| **3.** **Abstract and Quantitative Reasoning** | Students make sense of quantities and their relationships in problem situations. |
| **4. Statistics and Probability** | Students can interpret and apply statistics and probability concepts to analyze data, justify conclusions, and make inferences. |
| **5. Algebraic Mechanics** | Students can simplify algebraic expressions; solve problems involving algebraic equations; reason, describe, and analyze quantitatively using units and number systems. |
| **6. Functions** | Students can use a variety of functions to model real world applications and solve problems using multiple representations. |
| **7. Solving Problems in 2 and 3 Dimensions** | Students can use constructions, postulates, theorems, and formulae to model real world situations and solve problems in 2 and 3 dimensions. |

**21st Century Competencies:**

|  |  |
| --- | --- |
| 1. Problem Solving and Critical Thinking  2. Accessing and Analyzing Information  3. Communication and Collaboration | 4. Creativity and Innovation  5. Initiative, Leadership and Accountability  6. Citizenship and Responsibility |

**Performance Task Chart:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Description** | **Content Standards** | **21st Century Competencies** |
| Mastery Tests | Mastery tests are skills-based assessments. Students demonstrate their mastery of mathematical skills specific to the unit of study. | #1 - 7 | #1 |
| Showcases  (Embedded Assessments) | Showcases require students to apply mathematical skills in real-world situations. Students demonstrate a deeper comprehension of the mathematical principles on EAs. | #1 - 7 | #1, 3 |
| Problems of the Month | The Problem of the Month is a non-routine, complex problem that allows for multiple avenues of problem solving. Students write up their solution and how they arrived at and checked that solution | #1 - 7 | #1, 3, 4, 5 |
| Practice PBAT  (Performance-Based Assessment Task) | Ideally, one Performance Based Assessment Task will be completed by students each trimester. Students will apply their problem solving and mathematical skills in real-world situations. | #1 - 7 | #1 - 4 |

**Portfolio Criteria:**

Each trimester, you will gather examples of your best work for your portfolio.

|  |  |  |
| --- | --- | --- |
| **Trimester 1** | **Trimester 2** | **Trimester 3** |
| Mastery Tests  Showcase | Mastery Tests  Showcase | Mastery Tests  Showcase |
| Evidence of Revision:   * Error Analysis for MT * Problem of the Month revisions | Evidence of Revision:   * Error Analysis for MT * Problem of the Month revisions | Evidence of Revision:   * Error Analysis for MT * Problem of the Month revisions |
| Teacher for a Problem Presentation (2) & TFAP Reflection | Teacher for a Problem Presentation (2) & TFAP Reflection | Teacher for a Problem Presentation (2) & TFAP Reflection |
| Problems of the Month (2) | Problems of the Month (1) | Problems of the Month (2) |

**How You Will Be Graded**

On Powerschool you will see mastery codes, a green checkmark, a 0, or a dash. A green checkmark means the item is complete and has been handed in. A zero (0) and an orange dot means the item has not been turned in or completed, including absences. A dash (---) might appear in place of a green checkmark or other codes if you use certain types of cell phones, so we recommend checking your powerschool on a computer. The mastery code meanings are below. Your goal is to reach competent or above on all major tasks for the year.

|  |  |  |  |
| --- | --- | --- | --- |
| **Mastery Language Abbreviations** | **Mastery Language** | **Progression to Meeting Standard** | **Standard Grading Equivalent** |
| XE | Exemplary | Exceeds Standard with Distinction | 100 |
| CO-XE | Competent-Exemplary | Exceeds Standard  (revise for exemplary) | 93 |
| CO | Competent | Meets Standard  (revise for exemplary) | 85 |
| EM | Emerging | Approaches Standard  (needs revision) | 70 |
| NY | Novice | Not Yet  (needs revision) | 60 |
| NE | No Evidence | No Evidence of Work Yet  (needs completion/revise) | 50 |

**How to Learn Math**

Math is all about making mistakes! When you learn a new skill, you practice it, you’re tested on it, you make mistakes, you revise those mistakes, practice some more, and are tested on it again. We love mistakes in math -- it’s proof of your progress! We expect you to revise all major tasks until you meet or exceed standards.

**Daily Math Class Routines**

* Class Openers **-** A “Do Now” will be on the board at the beginning of every class. Your goal is to complete the questions on the sheet of paper provided before the timer goes off. There is one Do Now sheet collected every 2 weeks. If you are tardy and miss the Do Now, you can’t make it up. Your Do Now sheet should be the first sheet in your math binder.
* Daily 3 - At the end of each class, three problems will be on the board for you to complete. These problems will help you to strengthen your number sense, as well as practice skills previously learned.
* Classwork **-** During class time, we will be working on skills in a variety of ways: group work, independent practice, inquiry tasks, and games. You are expected to fully participate and complete all given classwork. We will take notes in a spiral-bound notebook that should live in your math binder. Your notes should be open on your desk so that you can use them to help you with classwork. Sometimes you will get a Mastery Exit Ticket. These will be pre-tests of the skills on the upcoming Mastery Tests and Showcases. They will be recorded in Powerschool with a mastery code to give you and your parents a sense of your current mastery level of the content.
* Homework **-** Homework will be assigned every class period and checked at the beginning of the next class period, during the Do Now. The problems are meant to help you practice throughout the week as you learn new material, as well as review material you have already learned. Completing homework is an important student skill that you are expected to develop in order to be successful in college. Homework is numbered by the unit and then which homework it is in that unit. For example, Homework #4.2 is Unit 4’s 2nd homework assignment.
* Problems of the Month - You will have approximately 15 minutes for 4 to 5 class periods (two weeks) to work on the Problem of the Month (POTM). If you do not turn it in on the due date, you will not receive credit for it. Instead, you may complete and turn in the make-up Problem of the Month, but you will not be given extra class time to work on it. At any time you may choose to attempt the Honors Problem of the Month, even if you are not completing an Honors Contract.

**Honors Contract**

At the beginning of the year, you have the opportunity to sign an honors contract, agreeing to complete specific work in order to receive honors credit for Geometry. The requirements are:

1. You must complete all honors Problems of the Month
2. You must correctly complete half of the Challenge Problems on Mastery Tests
3. You may not miss more than 5 homework assignments per trimester
4. You must attempt all challenge problems on homework assignments

At the end of each trimester, you must set up a brief, 15-minute meeting with your teacher to check-in on your honors contract progress.

**Website**

Our class’s website is: [http://geometryatMBA.weebly.com](http://geometryatmba.weebly.com). It lists our weekly schedule, has a homework blog with links to the homework, copies of the Problem of the Month, and extra practice. If you lose your homework or POTM, you can always get a new copy from the website. If you are absent, you should check out the weekly schedule and HW blog to see what you missed.

**Revision**

If you do not meet or exceed the standard on skill, you may revise it after taking the following steps:

1. Completing an Error Analysis sheet (for Mastery Tests)
2. Showing evidence of studying (completing old homeworks, re-working classworks)

\*\*\*You must complete ALL of the homework assigned for that unit before retaking the Mastery Test

1. Attending an After-School Support session with your teacher.

For more information on our school wide policies about Mastery Based Learning and Grading, please reference the Metropolitan Business Academy Student-Parent Handbook and the Guiding Principles of Mastery Learning and Mastery Grading at [www.metropolitanbusinessacademy.org](http://www.metropolitanbusinessacademy.org).