

COURSE:

Geometry

MIDLAND CLASSICAL ACADEMY

COURSE DESCRIPTION

2025-2026



GENERAL DESCRIPTION

Geometry allows students to encounter mathematical proof, deductive reasoning, and compass/straightedge construction. To a large degree, it is an advanced logic class. Students will also be exposed to coordinate geometry, SAT test prep, spreadsheets, CAD software, and even some mathematical literature.

The course is designed to encourage students to become effective problem solvers, critical thinkers, and to create students who are curious enough to become lifelong learners.

COURSE PURPOSE



In the history of education perhaps the most enduring text throughout the ages, other than God's Word, is Euclid's classic text, the *Elements*. Written almost 2,500 years ago, it has only been in the last 50 years or so that this text has been sidelined for more "practical" geometry texts. Because the text has been relegated by most to the back shelves of the library, its tremendous value is unfortunately unknown to most people. By contrast, the *Elements'* value was not missed by most past educational institutes. Over the doorway of Plato's Academy was written: "Let no one come to our school who has not learned geometry." In an effort to emulate the Academy, many scholastic institutes have written over their doors a slightly modified version of Plato's requirement: "Let no one come to our school who has not learned the *Elements* of Euclid."

Of all the texts or subjects to master, what is it about geometry—and by implication the *Elements*—that is so important that Plato and others would hold it in such high regard? This is a question to ponder for the first day of class! Perhaps the answer lies somewhere in the comments

and works of great men. Jonathan Edwards, the great preacher of the 18th century, said, "When I am violently beset with temptations, or cannot rid myself of evil thoughts, [I resolve] to do some arithmetic or geometry, or some other study, which necessarily engages my thoughts, and unavoidably keeps them from wandering." Abraham Lincoln's education as a backwoods, shy boy was composed of three things: the Bible, the complete works of Shakespeare, and Euclid's *Elements*.

COURSE REQUIREMENTS

It will be expected of each student to be fully prepared for each class meeting. This will be accomplished by reading the assigned material and/or doing all of the assigned problems. Assignments will generally be given 1-3 class periods before their due date. **If a student is not present at a class to receive an assignment, it is the student's responsibility to get the assignment, either from the tutor or another student.** NO extensions will be given if effort is not taken to get assignments missed in class! The expectation of a fully completed assignment at the beginning of class will also apply to those students that have missed the previous class(es).

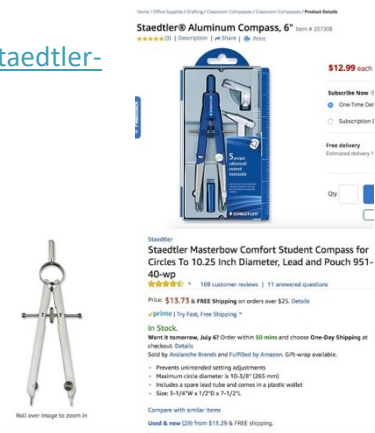
PROPOSITIONS

During certain segments of the year, students will be assigned 1-3 proofs out of Euclid's Elements each class. There is nothing to solve. The student is actually looking at the solution, where Euclid is trying to justify a proposition he has made. The student's task is to understand Euclid's solution well enough that given the same proposition, the student could go to the board and justify the proposition to the rest of the class—without looking at the book! Students will generally be selected randomly, but the tutor reserves the right to call on someone at his discretion as well. A student's grade is determined largely by whether they are prepared to lead the class through the solution, how well they explain the solution, and how much they involve their class in the process of completing the proposition (Socratic Method). The larger the class, the less opportunity the student will have to go to the board during the semester. **The student should therefore be prepared – an entire semester's grade could be significantly altered by their preparation for only a few classes!**

SUPPLIES

Also consult Grade Level Supply List.

- Graph paper or engineering paper
- Scientific calculator (graphing calculator not required)
- Lined composition book (7 1/2 x 9 3/4 - most are black & white and non-spiral and around 100 pages), but you can find some [super cool ones online](#) if you plan ahead (you need them before October). I can't explain why, but students tend to keep this for a long time.
- Drawing compass
 - Students are strongly advised to purchase one that has a screw mechanism that opens/closes the compass. The cheap plastic ones are frustrating to use for our purposes. The higher quality ones run \$10-15, like the ones pictured below.
 - Preferred: Available from Office Depot here
<https://www.officedepot.com/a/products/207308/Staedtler-Aluminum-Compass-6/>
 - My second choice: Available from Amazon here:
<http://a.co/bdpRT9N>



GRADING

Mastery (M) is achieved by obtaining an 85% overall percentage in the class. The relative value of the homework, quizzes and class participation is as follows:

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|----------------------------------|-----|
| ▪ Class contribution | 30% |
| ▪ Propositions/Compass Exercises | 30% |
| ▪ SAT Prep / Textbook Exercises | 30% |
| ▪ The Megaproblem | 10% |

Students will have daily homework, as well as quizzes and tests to monitor mastery of the course objectives. The homework will be collected, graded, and returned promptly for appropriate revisions to be made. Revisions will be checked for correctness as well as completion.

If a student scores below 70% on a test, he/she is required to revise all missed problems and then retake a test ("revise and retake") with comparable problems. If the student scores above 75% on the second test, then he/she will not be able to revise this test and the grade will stand. If the student again scores below 75%, he/she must repeat the process on a third test. The third test is NOT revisable. A student is not able to take any future tests until this process is completed. Students and parents should feel a strong sense of urgency any time they need to retake a test, as this process can slow down progression with the rest of the class. Since math is a highly sequential subject, MCA believes that this process is what will help students to build on a solid foundation as they progress through their education.

Contribution Grades

Contribution Grades primarily assesses four areas: a student's preparation for class, his attitude towards learning, his contribution towards learning during class-time, and his level of engagement during the class conversation.

A student's respectfulness towards God, his tutor, and peers is a prerequisite for a good Contribution Grade.

Daily Contribution grades will be given for every hour of class. Typically, students are expected to earn 10 points per hour, but the tutor may adjust these values to better reflect the nature of the class time. Daily Contribution grades are not revisable.

Additional Contribution Grades such as Engagement Notes, etc. may be assigned as needed. All additional Contribution Grades are revisable for 70% of the original value, unless the tutor specifies otherwise.

MCA utilizes a web-based grading program, *FACTS Family Portal*, which provides a valuable tool for both parents and students to get timely feedback on a student's standing in his or her classes. There, details can be found about current grades, absences, tardiness, participation, assignments given/received, and also some brief descriptions of a student's conduct in class. As such, parents are strongly encouraged to use *FACTS Family Portal* on a regular basis as a way of keeping up with your child's progress and to communicate with the tutor frequently via email, phone, or office visit in the event of any questions or confusion. An "OS" will be given in the Note section to indicate a student's original score. "EC" will be given to indicate any extra credit points the student earned on the assignment.

CONTRIBUTION GRADES

*Contribution Grades primarily assesses four areas: a student's **preparation** for class, his **attitude** towards learning, his **contribution** towards learning during class-time, and his level of **engagement** during the class conversation.*

*A student's **respectfulness** towards God, his tutor, and peers is a prerequisite for a good Contribution Grade.*

Daily Contribution grades will be given for every hour of class. Typically, students are expected to earn 10 points per hour, but the tutor may adjust these values to better reflect the nature of the class time. Daily Contribution grades are not revisable.

Additional Contribution Grades such as Grammar Quizzes, Engagement Notes, etc. may be assigned as needed. All additional Contribution Grades are revisable for 70% of the original value, unless the tutor specifies otherwise.

REVISIONS

Most assignments given are revisable, with the exception of proposition presentations and quizzes, which are in no way revisable. Through revisions, a student can earn back 70% of the points lost on an assignment, and may do revisions twice to regain all of the possible points. However, students are strongly encouraged to maintain

awareness of revision deadlines (given in syllabus), after which point revisions will not be accepted. Revisions are due by the end of the school day on the posted date. If an assignment is handed in late, the points deducted for being late are not revisable.

If a student scores below a 70% on a test, he/she is required to revise all missed problems and then retake a test ("revise and retake") with comparable problems. If the student scores above a 70%, then he/she will not be able to revise the second test. If the student again scores below a 70%, he/she must repeat the process on a third test. The third test is NOT revisable. A student is not able to take any future tests until this process is completed. Students and parents should feel a strong sense of urgency any time they need to retake a test, as this process can slow down progression with the rest of the class. Since math is a highly sequential subject, MCA believes that this process is what will help students to build on a solid foundation as they progress through their education.

COMMUNICATION

At MCA, we promote an open-door environment between tutors, students, and parents. Students are encouraged to initiate contact with their tutors when they need help on a concept or just a listening ear. My office hours will be posted on my office door, and students are welcome to drop by or schedule an appointment. Students are also welcome to text me or call me on my mobile number if the need arises. Parents are also encouraged to contact me in the same manner.

EXTRA CREDIT

As this is a junior-level class, the tutor expects students to be responsible for their learning. Occasionally the tutor will offer a small amount of extra credit to the whole class, and the only requirement for earning these points is completing the assignment to the tutor's satisfaction. There are some more lengthy assignments that are available for extra credit, but a student is only able to access these assignments once they have completed all revisions from the previous two months of class. Any revisions beyond the deadline stated above will receive no credit, but still must be completed to access this extra credit.

Extra credit opportunities will be available throughout the school year, but most of them are assigned and only available for a limited time. Students are encouraged to take advantage of these opportunities as they come along, as there are very few available as the end of the school year approaches.

TURNITIN SYSTEM

Turnitin is an internet-based service and tool that promotes academic integrity and original thought from students. Turnitin screens for similarity (plagiarism) and detects unauthorized A.I. usage in writing.

To better ensure academic integrity and original thought, tutors may ask students to either submit their classwork through Turnitin directly or to email them a digital copy of their classwork, for the tutor to upload through Turnitin screenings.

Tutors may use the feedback Turnitin provides to help them make a more-informed determination about the integrity and originality of the students' work.

MCA Schoolwide Policies

MCA ATTENDANCE POLICY

Absence: Parents must inform the school if their student will be absent for any reason. Call the Front Office or email upperschoolnurse@mcaknights.org prior to the absence or on the morning of the absence. If a student is absent without prior notification by a parent, the school will call the parent to determine the validity of the absence. Call the office, 432-694-0995, or email upperschoolnurse@mcaknights.org.

In the event an Upper School student is absent for more than one-fourth (1/4) of the class sessions during a semester, the student's parents must meet with the tutor and Head Administrator to determine whether the student will receive credit for the class. Additional and/or make-up work may be required.

Tardy Policy: Tardies will be marked at the discretion of the individual tutors. Students or parents should contact the individual tutors to report reasons for tardies as soon as possible.

Missed Assignment Due Date Guidelines: In the event of an absence, a due date extension will be given. The extension will not exceed the number of school days missed during the absence. Due dates will be established by the class tutor. Students must complete all work assigned during their absence. However, the tutors may, at their discretion, excuse the students from any portion of the assignments missed. Students will receive full credit for submitting assigned work. Note: It is the **student's responsibility** to find out what work was assigned. In the case of extended illness, it is recommended that the student or parents contact the tutors directly to find out what assignments were or will be missed.

MCA HONESTY POLICY

All students are assumed to be exhibiting the godly fruit of self-control. We anticipate working with students who are characterized by joy, honesty, and diligence. For this reason, upon enrollment, we require that each student affirm that he or she will maintain the highest standards of honesty and behavior in all work done for Midland Classical Academy. All students will be asked to sign the following.

Pledge of Academic Honesty

I have read and understand the Midland Classical Academy Code of Conduct. I pledge my honor, with God as my witness, to commit myself to the practice and preservation of these standards of academic honesty as long as I am a student of the academy.

As such, the following actions are considered serious violations of our Honesty Policy.

1. *Directly copying someone else's work visually, orally, electronically, or otherwise.*
2. *Use of disallowed devices on assignments such as notes, smartphones, books, etc.*
3. *Getting test questions or essential information from another student who has already completed an assignment that will later be taken, such as a test or quiz.*
4. *Any other activity that the tutor has explicitly described as cheating.*

MCA MASTERY WITH HONORS (MH)

Midland Classical Academy offers honors credit, referred to as "Mastery with Honor", but we offer no "honors" classes.

Mastery with Honor credit for a class is given to those students who

- receive a minimum grade of 92.5 at the end of each semester
- receive a minimum participation grade of 85 at the end of each semester
- demonstrate character befitting an honor student (1 Corinthians 10:31)
- complete a tutor-approved, 20+ hour project that advances the student's knowledge or skills in the subject while serving either the school or the community in some capacity.

As a student fulfills these requirements in a class at MCA, they receive a Mastery with Honor designated by an "MH" for the class. Mastery with Honor applications and a nominal fee are due at the end of October. The projects themselves are due at the end of March with two scheduled checkpoints in between the application and final deadline.

ARTIFICIAL INTELLIGENCE (A.I.) POLICY

Artificial Intelligence programs are tools that can be used beneficially or harmfully. To the extent that MCA uses these A.I. tools, we desire to use them and instruct our students to use them beneficially. It requires the classical virtue of "Wisdom" to discern the difference between what is beneficial and what is harmful.

Among MCA's core values is "Engaging Minds". Everything we do, including our use of A.I. needs to be in harmony with this value and to cultivate within students the skill of being able to "think for themselves".

MCA offers the following principles for tutors & students to follow as they navigate A.I. in their academic domains. MCA tutors will create and clearly communicate their own instructions for A.I. usage in their classrooms and for their assignments. Students should practice integrity, honesty, and humility in their use of A.I. as in all their work.

Principle 1: *Why to use A.I.* - A.I. should only be used by a student to equip them to better understand the material and to learn in a way that facilitates their critical thinking skills.

Principle 2: *When to use A.I.* - Tutors will explicitly and clearly communicate which assignments a student may or may not use A.I. tools to assist in their learning.

Principle 3: *How to use A.I.* - Tutors will explicitly and clearly communicate the method in which it is acceptable and not acceptable for the student to use A.I. tools.