

COURSE:

Precalculus

MIDLAND CLASSICAL ACADEMY

COURSE DESCRIPTION

2025-2026



GENERAL DESCRIPTION

Precalculus is designed to continue to develop the fundamental skills and principles covered last year in Algebra 2. The course furthers a student's understanding of the relationship between equations, graphs, and the stories they tell.

COURSE PURPOSE

Precalculus is also designed to encourage students to become effective problem solvers, critical thinkers, and to create students who are curious enough to become lifelong learners. Precalculus also contains a significant amount of trigonometry. Trigonometry is the mathematical study of angles and angular relationships. Its impact on the world can be observed as far back as the Babylonian and Greek empires, especially in the science of astronomy. Galileo stated that the language of the universe is written in numbers. Thomas Jefferson wrote that "trigonometry.... is most valuable to every man" and that "there is scarcely a day in which he will not resort to it for some of the purposes of common life".

As with all math and science courses at MCA, this course will offer innumerable opportunities to better understand Romans 1:20: "For since the creation of the world His invisible attributes, His eternal power and divine nature have been clearly seen, being understood through what has been made."

The goal of this course is to introduce students to various aspects of precalculus and trigonometry from the high school to early college level. The main objective is that they would gain a mastery level of understanding of these subjects. The course is often taken in conjunction with physics, as the two subjects complement each other wonderfully.

COURSE REQUIREMENTS

- Students are expected to read the lesson material from the book before they come to class. Special attention needs to be paid to the examples from the book.
- Students will be required to participate in class discussions, which will be done using the Socratic Method.
- Students will keep a binder to organize their class discussion notes, graded homework assignments, and revisions.
- Homework assigned the previous class day will be turned in/checked at the beginning of class. Late policies are described by individual tutors. You will be able to look on the distributed syllabus or the *FACTS Family Portal* to see upcoming due dates for homework and tests if you would like to work/study ahead or in case you are absent.

SUPPLIES

Also consult Grade Level Supply List.

- Pencil and eraser (no ink)
- College-ruled, loose leaf notebook paper (no spiral notebooks)
- Loose leaf graphing paper or engineering paper (no spiral notebooks)

- 3-ring binder to hold your stuff. It can be shared with another class, but find a way to keep your stuff organized so you know what needs revised, etc. (a 1.5-inch is adequate for this class, but get what makes sense for your system)
- Book cover
- Ruler (US and metric markings)
- Protractor
- Graphing calculator (required)—we strongly recommend a TI-84 Plus CE
 - The TI-84 Plus is also adequate for the class. The color features of the CE have been helpful for students
 - We will provide class time instruction on how to use it
 - If your family prefers another brand or model, you are free to choose it, but your student will not receive instructions on its use from his/her tutor
- The humble attitude of a learner!

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:

- | | |
|-----------------------------------|------------|
| ▪ Class contribution | 30% |
| ▪ Homework and pop quizzes | 35% |
| ▪ Tests | 35% |

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 does not achieve a score of 70% or higher on a test, no revision points are entered into the grade book until the following process occurs:

1. The student must revise the test and arrange for a time to sit down one-on-one with the tutor to go over these revisions to ensure understanding. The second test will be given only after this process has occurred. The student must initiate this one-on-one tutoring session at the tutor's convenience.
2. At the tutor's discretion, if sufficient understanding cannot be demonstrated, the student may be required to revise certain homework problems that are creating difficulty, then review these problems as well as the test revisions with the tutor in a one-on-one session at the tutor's convenience.
3. The student must take a second (usually more difficult!) version of the test. If the student earns a score of less than 70%, he/she must repeat the process.
4. On the last retaken test, no revision points will be allowed. A maximum of 2 test retakes will be offered for each chapter test.
5. From this process, it should be obvious to the student that it is MUCH easier to understand a problem the first time it is turned in for homework, study all their homework problems prior to taking the first test and pass the test the first time with a score above 70% so that they can freely revise for an even higher score. If this is not done, the student usually falls so far behind the general class that it becomes difficult to pass the course with a grade of 85%. 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.

REVISIONS

Most assignments given are revisable, with the exception of occasional pop quizzes in class. Through revisions, a student can earn back 70% of the points lost on an assignment and may do revisions twice to regain all 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.

COMMUNICATION

At Midland Classical Academy, 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. Parents are also encouraged to contact me in the same manner.

I will do my best to communicate with students and parents if the student's grade is below an 85%.

EXTRA CREDIT POLICY

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 POLICY

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.