

Robotics

Course Description 2025-2026



GENERAL DESCRIPTION

Robotics is one of those sciences that help shape industry and all aspects of modern life, and is one of the more fascinating of the modern sciences. Robotics and robotic engineering are vital for space exploration, aerospace, and even surgery, so learning about robotics can be a fun and exciting entry into many different career paths. This will be a project-oriented course, so be ready to use your hands!

COURSE PURPOSE

The primary goal of the course is to prepare a student to encounter robotics in higher education and in life. To focus on this goal, the student will be required to attend MCA Robotics club meetings and be a member of one of the MCA Robotics teams. The student will also be required to complete a robotics project of his or her choice, which can be affiliated with the MCA Robotics competitions (like building, programming, or community service projects) or a project the student wishes to tackle alone.

COURSE OBJECTIVES

- To introduce the student to robotics and robotic engineering
- To involve the student in robotics competitions and on-the-fly engineering problems at competitions
- To encourage the student to try his or her own hand at some aspect of robotic development (like 3D printing or designing elements for a robot)

REQUIRED READING

- None

TIME REQUIREMENT

- The student must be an active participant in MCA Robotics to receive academic credit (attendance and time requirements will be agreed upon by the student and the tutor as needed).
- The student must complete an MH or a project for this class.
- To receive full contribution points, the student must check in with the Tutor at least once per week to discuss life at Robotics.

SUPPLIES

- None

GRADING

- **Project** robotic project or STEM MH is **30%** of a student's grade
- **Contribution** - **30%** of a student's grade (weekly Tutor meetings)
- **MCA Robotics Meeting Attendance** **40%** of a student's grade

A note about Contribution Grades

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

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

Weekly Contribution grades will be given for attendance at Robotics meetings or Tutor meetings/check-ins. Weekly Contribution grades are not revisable.

MASTERY

- Mastery (M) is achieved by obtaining an 85% overall percentage in the class and a student is eligible to earn a Mastery with Honors (MH) for the course after obtaining a 92.5% average for both the first and second semesters and by completing an approved Mastery with Honors project of at least 20 hours.
- MCA utilizes a web-based grading program, RenWeb. This is a valuable tool for both parents and students to see grades, absences, tardies, contribution, assignments given/received, and also some brief descriptions of a student's conduct in class, and parents are strongly encouraged to use RenWeb on a regular basis as a way of keeping up with student progress.
- Extra Credit Policy: As this is a senior-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.

TUTOR TARDY POLICY

Class will begin precisely at the scheduled time. A student arriving 30 minutes late may be marked as absent for the day. Feel free to text me if you will be late or miss a class and be sure to tell the front office too!

COMMUNICATION

- All students will be required to be members of a GROUPME text group so that rapid class communication can occur.
- Students may call or text me anytime with questions or problems!

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 student's 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 attendance@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 attendance@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 teacher or class tutor. Students must complete all work assigned during their absence. However, the teachers or 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 contribution 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.