

Fall 2024

# Henry Ford College Engineering Club Tournament:

## Maze Obstacle Course

Competition: [December 5th from 12:30 pm - 2:00 pm]

Application Deadline: November 4th

The purpose of this competition is to work together as a team, create a robot with your imagination, and fuel your logic and reasoning skills in a fun competitive way.

### Building the Team

- Each member will be a part of their own sub-team of 3-5 people.
- Teams will be self guided, but be sure to keep each member on the same page.
- Important aspects to keep in mind:

Design - Be sure to get a general idea on what you want each bot to do, and how they are going to achieve it. Making even a basic blueprint of steel frame and where the motors will attach to the wheels and gears will save an incredible amount of time.

**Make sure to keep your bot within the guidelines**

Build - Each robot (essentially) contains two parts, the lower chassis (wheels, treads, motors, and basic frame) and the upper chassis (claws, arms, and auxiliary actions). Teams are encouraged to complete the lower chassis first, since that is how your robot will move. Then, they can move to add extra 'competition specific' parts.

Program - While the basic code is extraordinarily beginner friendly since it pre-written in the VEX brains, the wireless controllers must be modified for every extra motor added. The VEX program is traditionally in C++ but can be changed to Python.

### Team Guidelines/Fair Play

- Each team is expected to maintain a high level of gracious professionalism.
- If anyone deliberately interferes with the other team's robots they will be disqualified.

- If there are any disagreements about event rules or regulations, The Board will have final judgment.
- Harassment towards Board members or any club other members will NOT be tolerated

## Robot Guidelines

- No team may use robots from past competitions
- Each team must have 2 robots in order to compete in the competition
- Robots and accessories must be made from Vex kits and/or Arduino kits.
- The Maze-bot is alluded only 2 new VEX motors
- The Obstacle-bot is alluded only 4 new VEX motors
- Each team may use up to 3 old VEX motors for each robot
- Each bot must be manually controlled
- The Maze-bot must not be more than 1 ft in length and 1 ft in width

[Outside pieces MUST be reviewed and confirmed by a board member before its use in the competition]

## Challenge Rules

- Each team's run will be recorded by two separate timers.
- Each team will be able to choose where their ball starts on their Maze-bot.
- Teams not running the course will each be given a VEX ball to throw at the competing bot.
- Teams MUST transfer their ball from their Maze-bot to their Obstacle-bot.
- The Obstacle-bot MUST carry the ball over the finish line.
- For each instance the Obstacle-bot drops its ball, a time penalty will be enacted.
- Once a ball is in a Goal Zone the opposing team IS allowed to take and remove the ball.

NOTE: All rules are subject to change and additions/subtractions will be made by The Board of the Engineering Club as they see fit to maintain the competition.