



## Montgomery County Fair Ag Robotics Contest Rules

**January 6, 2022** – Applications of Interest posted online and accepted

**February 11, 2022** – All Applications of Interest due to the Fair Office by 5:00pm

**February 18, 2022** – Teams notified of selection to participate

**February 25, 2022** – Confirmation of Participation Due along with Entry Fee

**April 1, 2022** – Contest at Exhibit Building on the Montgomery County Fairgrounds

1. This Division is subject to the General Rules of the Montgomery County Fair Association and these Division Rules.
2. **Participation.** Participants must be 4-H and FFA members or members of school-affiliated Robotics Programs in Montgomery County.
3. **Age Divisions.** Age divisions are determined by a participant's grade as of September 1 of the current school year.

- Junior                                      Grades 3, 4, and 5  
    Minimum age is 8 years old and in the 3<sup>rd</sup> grade
- Intermediate:                              Grades 6, 7, and 8
- Senior:                                        Grades 9, 10, 11, and 12

4. **Entries and Team Allotment.** Due to time and facility limitations, a maximum of 50 teams will be accepted with the following allotment:

36 Teams from school-affiliated teams (max of 2 Teams/division per school district)  
14 Teams for 4-H Clubs and FFA Chapters

MCFA will accept two teams per division from each of the six Montgomery County School Districts (36 teams) along with 14 teams that represent Montgomery County 4H and/or FFA clubs. Should the 50 allocated spaces not fill entirely, the remaining spots would be filled by a drawing comprised of school and 4H/FFA groups that have interest that exceeds their predetermined spaces. Preference would be given to 4H/FFA groups. Teams shall be submitted by their respective School representatives and 4H/FFA Club Sponsor/Teacher. Any team wishing to enter must apply to participate by **February 11, 2022 at 5:00 pm**. Entries will be separated by division and school district/ 4H/FFA and selected by random draw.

5. **Cost.** An entry fee of \$40.00 will be collected per team entry after participants are selected and announced
6. **Members per team.** A team will contest of at least three (2) and no more than six (6) members. No Mixed Divisions (no Juniors mixed with Seniors etc.)

7. **Equipment.** Each team must supply their own equipment for the challenge. Each team may only bring the supplies listed below. Equipment will be checked by contest officials as teams check in for the contest. Any extra equipment or item that does not meet specifications will be returned to the team coach.

Unlimited Quantity	Lego® Mindstorm® NXT, EV3, Spike Prime, or Inventor building pieces (excludes brick, motors, and sensors)
Unlimited Quantity	Backup rechargeable batteries or sets of AA batteries
1	Lego® Mindstorm® NXT, EV3, Spike Prime, or Inventor brick/hub
3	Lego® Mindstorm® NXT, EV3, Spike Prime, or Inventor motors
1	Lego® Mindstorm® NXT, EV3, Spike Prime, or Inventor ultrasonic sensor
1	Lego® Mindstorm® NXT, EV3, Spike Prime, or Inventor touch/force sensor
1	Lego® Mindstorm® NXT, EV3, Spike Prime, or Inventor light or color sensor
1	Lego® Mindstorm® EV3 gyro sensor
1	Laptop computer or tablet with programming software (Lego® or non-Lego® is acceptable)
1 or 2	USB Cable (for robot-computer connection)
1	Build Plans (paper or digital)
Unlimited Quantity	Power strip (3-prong, grounded) *
1	25 ft. (max) extension cord (3 prong, grounded) *
1	Plastic container or cardboard box for transporting robot to and from game area
1	Ruler or tape measure
Unlimited Quantity	Pencils and notepad with blank paper for design and note-taking purposes

\*No two-prong extension or powers strip plugs allowed. Computer power cords are allowed to be two-pronged\* There is no WiFi available in the building, so Chromebooks will not be permitted\*

8. **Bluetooth Connectivity.** Bluetooth connections can be made and utilized during the programming phase. It is not allowed during the competition phase while the robot is on the playing field.
9. **Minimum Construction Skills and Proficiency.** Competitors must be capable of designing and building a functioning Lego Mindstorm robot that includes the use of:
- Motors
  - Light/color sensor
  - Touch sensor
  - Ultrasonic sensor
  - Levers, arms, claws, etc.
  - Incorporating non-Lego parts into robot design and/or function
10. **Minimum Programming Skills and Proficiency.** Competitors must be capable of programming a Lego Mindstorm robot in order for the robot to:
- Move
  - Turn
  - Maneuver attachments effectively
  - Use sensors appropriately and effectively

**11. Participants with Disabilities.** Any competitor who requires auxiliary aids or special accommodations must contact the Montgomery County Fair Office at least two weeks before the competition.

**12. Rules of Play.** The official rules of play will be released with the challenge on **March 1, 2022**

**13. Contest Schedule.**

Registration	8 a.m.
Orientation	9 a.m.
Coaches Meet w/ Team	9:20 a.m.
Programming & Practice	9:30 a.m.
Competition Starts	11:00 a.m.
Lunch	Noon
Final Round	1:30 p.m.
Team Clean-up/Packing	2 p.m.
Results & Awards	2:30 p.m.

*\*Schedule is tentative and subject to change\**

*\*Lunch is to be provided by team or exhibitor\**

**14. Awards.** The awards will be as follows for each division (Senior, Intermediate, Junior):

1<sup>st</sup> Place: \$250.00, Team Trophy, Participant Ribbons

2<sup>nd</sup> Place: \$175.00, Team Trophy, Participant Ribbons

3<sup>rd</sup> Place: \$100.00, Team Trophy, Participant Ribbons