Brazos Valley Fair & Rodeo
AgRobotics Competition
Rules & Regulations

The AgRobotics Competition will be held Saturday, October 20th, 2018 at the Brazos Valley Fair & Rodeo in Bryan, TX. This contest is designed to allow members to demonstrate their robotics, engineering, and problem-solving skills. It is intended for Junior, Intermediate, and Senior teams who are capable of designing, programming, testing, and trouble-shooting a robot with no adult assistance.

The AgRobotics Competition is designed as a full challenge, meaning the contest theme, missions, layout and items used will be revealed up to a month before the contest. Teams will build and program a robot of their own design from scratch **before arriving on contest day** that can accomplish various missions.

TEAM ELIGIBILITY

This contest will be limited to eight teams in each division. These teams will be selected on a first come first serve bases. This contest is open to students for the 2018-2019 year in the counties listed below.

a. Brazos
b. Burleson
c. Grimes
d. Leon
e. Madison
f. Milam
g. Robertson
h. Washington

AGE DIVISIONS

Division	Age
Junior	Grades 3-5
Intermediate	Grades 6-8
Senior	Grades 9-12

ENTRY PROCESS

1. **Intent to Compete Application** Teams will be required to complete an "Intent to Compete" form to claim an available team slot. Intent to Compete Application will be available August 27th – September 21st at brazosvalleyfair.com/agrobotics. Only one member of the team/coach/agent needs to complete the application.
2. **Registration** forms will be sent via email to the first eight teams in each division who have completed the Intent to Compete Application. Contest Registration will be open from September 22nd – October 5th. **Team Registration fee will be$25.**Team members and one coach will receive complementary admission. **Additional tickets will be available to order on team registration form at a discounted rate. Day of admission will be full price.**
3. **Competition** will be held October 20th at the Brazos Valley Fair & Rodeo. Check-in will be from 9:00am-9:30am in the Exhibit Hall.

COMPETITION SCHEDULE

9:00AM	AgRobotics team check-in and team pit area set up
9:30AM	Practice

10:00AM	Competition begins
1:30PM *tentative*	Awards Ceremony

CONTEST GUIDELINES

1. **Members per team**. A team will consist of at least three (3) and no more than five (5) members.
2. **Equipment**. Each team must supply their own equipment for the competition. 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.

Quantity	Supply
1	Lego® Mindstorms® EV3 or NXT brick
Unlimited	Backup rechargeable batteries or sets of AA batteries
3	Lego® motors
1	Ultrasonic Sensor
1	Touch Sensors
1	Sound Sensor
1	Light or Color Sensor
1	Gyro Sensor
1	Laptop computer or tablet with programming software
1	Power strip (3-prong, grounded)
1	25ft. extension cord (3-prong, grounded)
1	Plastic container of cardboard box for transporting robot to and from field area
1	Ruler or tape measure
Unlimited	Pencils, paper (for design and note-taking)
Optional	Additional Lego® pieces (disassembled)
Optional	Lego® Mindstorms® Expansion set

*No two-prong extension or power strips allowed. Computer power cords are allowed to be two-pronged.

3. **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.
4. **Minimum Construction Skills and Proficiency**. Competitors must be capable of designing and building a functioning Lego® Mindstorms® EV3 robot that includes the use of:
    a. Motors
    b. Light/color sensor
    c. Touch sensor
    d. Ultrasonic sensor
    e. Levers, arms, claws, etc.
    f. Incorporating non-Lego parts into robot design and/or function
5. **Minimum Programming Skills and Proficiency**. Competitors must be capable of programming a Lego® Mindstorms® EV3 robot in order for the robot to:
    a. Move
    b. Turn

c. Maneuver attachments effectively
d. Use sensors appropriately and effectively

JUDGING

1. Teams will report to the designated location for check-in inside the Exhibit Hall.
2. An orientation will be provided for all participants where officials will review the mission, rules, and scoring. Team captains will draw to determine competition order.
3. Each team will be directed to a team pit (table and chairs). Each pit will have access to electricity to power laptops and robot batteries.
4. Each team **may have an hour, or until contest time starts**, to perfect their robot. A test/practice field will be available near each team pit.
5. If time permits, teams are allowed to make alterations to their robot design and/or program between matches. Team must report immediately to the staging area and playing field when called.
6. The robot must perform the mission autonomously.
7. Only registered contestants, coach, and contest officials will be allowed in the pit areas.
8. Only two team members are allowed at the AgRobotics match table during competition. Team members may switch between matches.
9. Teams that experience equipment malfunction(s) may not replace the part with supplies outside the contest area (from leaders, volunteers, county Extension agents or contest officials). Instead, team members must work together and be creative in completing preparation without malfunctioning equipment or visit with other teams.
10. Depending on the mission, contest officials may provide non-Lego® items that must be incorporated into the function of the robot and/or serve as part of a challenge.
11. Depending on the mission, additional points may be awarded for use of sensors.
12. No cell phones or other types of communication devices are allowed in the pit or contest areas. Exceptions include the approved items listed in the equipment section. During AgRobotics Competition, contestants are not allowed to communicate with spectators (including agents and parents).
13. In addition to mission score, teams will be scored on team communication, teamwork, and sportsmanship.
14. **Rule Change: A match is 3 minutes and consists of 4 rounds. The lowest scoring round will be dropped. The top 4 teams from each from each division will proceed to the final round. If less than 3 teams are in a division, no final round will be conducted and the scoring will reflect the final scores of the 4 rounds.**
15. Finalist teams will be ranked based on their total scores. Judges results are decisions are final.
16. Team captain must initial judge score sheet at end of each match. After score sheet has been initialed team score is final.
17. Tie-breaker procedures will be announced during the mission release.
18. Teams must clean up their pit areas prior to the awards ceremony.

19. An awards program will be held at the conclusion of Cleanup Time.
20. All teams must provide a thank you card for judging team.

FOOD

Food vendors and concessions will be available on grounds starting at 10AM. No glass containers.

AWARDS

Awards will be distributed as follows:

Grand Champion Team Member (Per Division)	Ribbon
Reserve Grand Champion Team Member (Per Division)	Ribbon
Third Place Team Member (Per Division)	Ribbon