DESCRIPTION
Teams from across the state are invited to compete to see who has the best Lego Mindstorm programming and design skills.

RULES
Teams of 2-4
Each team participating must have a minimum of two and maximum of four youth to be eligible to compete.

Age Divisions | Junior (9-13 years) | Senior (14-18 years)
Age is calculated as of January 1, 2019. In teams with youth of multiple age divisions, the age of the oldest youth on that team will determine the age division in which the team will compete.

Materials | Specifications | Time
Teams will bring official, unmodified Lego Mindstorm EV3 or NXT Core Set. They will also bring a laptop with the appropriate software loaded, along with power strips and extension cords they may need. Teams will have two hours to develop a program and, then, compete in 3-minute matches.

Qualifications
1. Robots may not have sensors or other attachments during check in. Teams may bring pre-constructed attachments provided they are in the storage boxes when being inspected.
2. If you choose, you may bring snacks and drinks for your team to keep in the pit area.
3. Teams should have a basic understanding of how to program their robot to push an object, pull an object, transport an object to another location, life, and gather items.

OBJECTIVES
- Youth learn the basics of programming and design skills
- Youth manage time in missions
- Youth communicate effectively and contribute to the group effort
- Youth demonstrate their knowledge

HELPFUL RESOURCES
- FIRST Lego League (FLL) Coaches Handbook
- FLL Judging Rubrics
- FLL What to bring to an event
- FLL Vision and Mission
- FLL Rules

CHALLENGE FACILITATOR:
Dawn Stuckey (dstucke@clemson.edu)
**Rules**

1. All robots must conform to the building design on pages 7-38 of the Lego Education Mindstorms EV3 resource guide provided in the core set materials box. No alterations or modifications will be allowed until the official challenge is revealed. Teams in violation will receive a 5-point reduction in scoring. [The robot must not exceed 10’ (front to back) X 8’ (side to side) X 10’ (height)]

2. Only one processor “brick” (EV3, NXT, RCS) per robot may be used.

3. Teams may only use official, unmodified Lego Mindstorm Core Set and Expansion Set pieces in their robot design.

4. Teams are limited to the 3 mothers provided in the Mindstorm EV3 kit or 3 mothers provided in the NXT kit.

5. Teams may use any or all of the sensors in the standard Mindstorm kit.

6. The robot must be completely autonomous.

7. During the competition, students may not handle or otherwise tamper with the robot of another team.

8. Teams will demonstrate the First Lego League’s expectation of Gracious Professionalism and embrace the concept of cooperation throughout the competition. If violations are observed, teams in violation will be penalized. Repeated violations will result in disqualification. (Chapter 4. Page 28 of the FLL Coaches’ handbook)

9. Only 2 team members may be present at the competition table during the team’s performance. Coaches and other mentors are not allowed at the competition table during the team performances.

10. Any discrepancies or questions during the competition must be discussed by the team captain and the event official only. Adults are not allowed to intervene. The ruling of the official is final.

11. Only team members, coaches, and mentors are allowed in the “Pit” area. Other visitors should remain in the public waiting area.

12. The robot design and programming must be the work of the team members. Adult coaches and mentors should refrain from cuing the team, directing the team’s programming decisions, or prompting the students during the competition events. If judges recognize an overabundance of adult participation, the adult may be asked to leave the area. Students will not be penalized for the actions of an overzealous adult.

13. Teams will compete in 3 rounds (3 minutes each) for a cumulative score to determine the overall winner of the game.

**JUDGING**

**Metric | Placing | Tiebreaker**

Judges will be monitoring students during the building and programming time to determine the winner of the Core Values Award. Points will be awarded based on missions completed to calculate the Table Competition winner. Official FLL Robot Design rubrics will be used for scoring for any tie breaker.

First, second, and third place awards will be given to for the following category: Table Competition Winner.