

Indian Creek High School  
Engineering & Technology Education Program  
Presents



## Rules & Regulations

### The Golden Rule

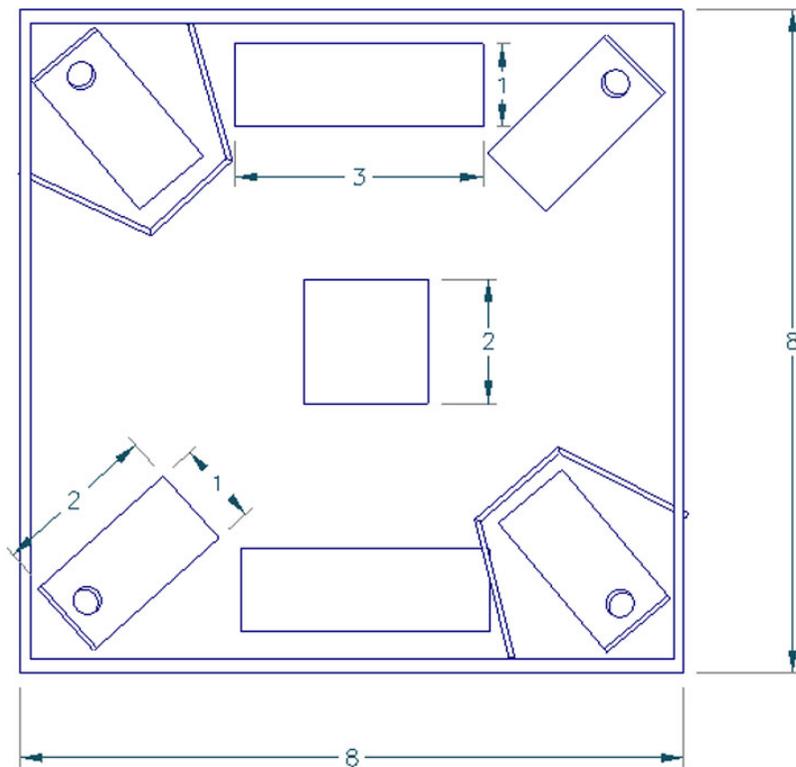
Lock Tight Night is intended to be a student driven robotics event in which we test the depths of student creativity against professionals from the field. As such, the number one rule for this competition is that no coach/mentor may at any moment touch the robot or manipulate parts from the Visual Edge kit. They may advise or assist with instruction/safe operation of tools/equipment so long as the work is carried out by students. Any coach/mentor caught handling the robot will result in a one point penalty for the team. Upon second offense, another two point penalty will occur. There will be a three strike rule in place that will result in the team's disqualification from the event all together. Once the coaches/mentors get the students to the event, it is their job to keep their team on task, keep them safe, and to drink coffee.

### Playing Fields

The field is approximately an 8'x8' square. It will be elevated above the floor approximately 30". All four sides will have a 4" tall wooden fence screwed to the table edges. The playing surface will be covered with a low-pile commercial carpet. This event has three main playing fields and a single practice field. The practice field will remain open during the entire event for teams to do tethered tests of their designs. During the overnight periods, teams may use any of the playing fields to test their designs as needed. At 8:00am on Saturday, only the designated practice field may be used for testing.

## Corn Hole Bag Stage

There will be a single area where the bags are placed. This area will be a 9"x7" rectangle designated with tape. There will be 20 corn filled bags in the area. The bags are 1/4 scale corn hole bags made from duck cloth material. These bags are to remain with the playing field at all times. **If any hacky sacks are removed from the playing fields for any reason other than accidental overthrowing by the robot, the team in violation will be disqualified from all future matches!!!**



## Scoring Goals

There are four (4) corn hole boards on the playing field. Each board is approximately 2'x1' with a 4" hole cut near the top of the incline. The hole on the board is four and a half inches (4.5") from the top of the board and is directly centered between the two sides. Two (2) of these boards have 2" PVC pipe in front to block robots from entering around the sides. The other two do not have these guards in place. The PVC guards will be fastened to the table and cannot be moved. While a team's robot cannot

intentionally break the barrier to get around it, there is no restriction in building a robot that can drive over it.

## The Robot

### Specifications

Each team is limited to the contents of *one and only one* standard VisualEdge Competition kit for construction. The robots will be inspected prior to the competition to verify that the contents of one and only one VEX kit was used. This includes, but is not limited to: fasteners, servos, and structural components. If it is not part of the kit, you cannot use it unless instructed otherwise by a Lock Tight Night staff member. Use of adhesives (other than Loctite threadlocker) and tape are forbidden. You also cannot use the box, the included cardboard, manual, Styrofoam, or anything that is not specifically a robot component.

Only ONE robot will be allowed to compete per team in the VEX challenge. Though it is allowed that teams will make changes to their robot at the competition, a team is limited to only ONE robot. Robots must fit in a 12" x 12" x 12" space when inspected before the match. The robot may extend past these restrictions once the match begins.

***The design of the robot must allow the radio crystals to be easily removed from the robot without any robot disassembly, as the radio crystals will be provided to each team for each match!!!!***

### Pits

No tools will be provided in the pit area. See the site map for location of the lab facility.

Every robot will be required to pass inspection before being cleared to compete. This will ensure that all tournament rules have been followed.

Teams may be requested to submit to random spot-inspections by event personnel. Refusal to submit will result in disqualification.

Referees or inspectors may decide that a robot is in violation of the rules. In this event, the team in violation will be disqualified and the robot will be barred from the playing field until it passes re-inspection.

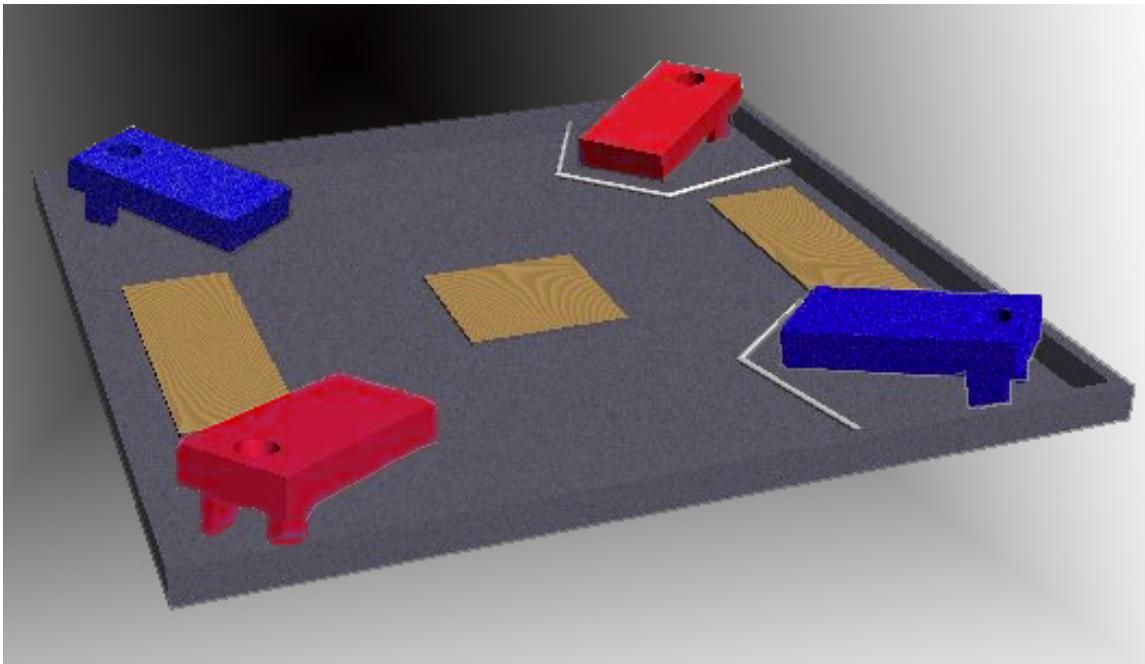
The following types of mechanisms are **NOT** allowed:

- Those built to intentionally damage opponents or the playing field and its components
- Those that pose an unnecessary risk of entanglement

### The Game

***All team members, including coaches, while in the lab facility or at the match tables, must wear safety glasses or goggles.***

Matches will be played on a field set up as shown below. This game will be played with a two-on-two format. At the start of the match, there will be a **RED** team and a **BLUE** team.



## Game Rules

1. The object of the game is to score more points than your opponent. At the beginning of the match, each robot will start within the start squares on the appropriate RED or BLUE area on the table. Each match will last two minutes.
2. Bags that leave the playing field are out of play. These bags will be returned to the field at the discretion of the judges.
3. Drivers and Coaches are prohibited from making contact with the robots or playing field components. Intentional contact will result in disqualification.
4. Scores will be calculated for all matches either immediately after the match or when all objects on the field come to rest.
5. Robots may not intentionally detach parts during any match, or leave mechanisms on the field. If a detached component or mechanism is attached to a goal and prevents additional scoring of bags, the team will be disqualified.
6. No intentionally throwing beanbags out of bounds. This will result in penalties.

Strategies aimed at blocking, the destruction, damage, tipping over, or entanglement of robots are not in the spirit of Hack Attack and are not allowed. Teams will be disqualified if warned more than once in a match; However, Hack Attack is a highly interactive game. If some unintentional contact, tipping, entanglement, or damage is ruled to be intentional, the offending team may be disqualified. Entangled robots will be given a "5-count" by the field referee and be allowed to be manually de-tangled by the team coaches.

If at any time the robot operation is deemed unsafe or has damaged the playing field, surface barriers, or scoring components by the determination of the referees, the offending team may be disqualified. The robot will require re-inspection before it may again take the field. If a robot goes completely out-of-bounds (outside the playing field), it will be disabled the remainder of the match.

## **Scoring Components**

Standard 1/4 scale corn hole bags will be used as the scoring elements. There are twenty (20) bags available as scoring objects in the game.

## **Scoring Rules**

The scoring goals consist of four (4) rectangular boards similar in scale to those of real cornhole boards. Two of the four boards have fences around them making the robot have to throw the bag into the goal on these boards. Once the bags have landed in the goals or on the platform, they will not be removed. The bags must be all the way inside the hole in order to be counted. Bags that are resting on the edge of the hole or that are stacked above the board surface will not count toward a team's score.

Guarded Boards  
4 points in the hole

Non-Guarded Boards  
1 points in the hole

\*No points will be counted for bags placed on the boards.

## **Schedule**

Lock Tight Night will consist of three main phases of play - Practice Round, Qualifying Round, and the Finals. The Finals will be played in the same manner as the Qualifying Round with the Engineer Teams thrown into the rotation. As we have fewer teams than we had originally allotted for this event, every team will go on to play in the Finals against the Engineers.

A series of practice matches will begin at 8:00 am. These matches will not be scored. Immediately following the practice matches, the qualifying matches will begin at approximately

10:30am. After a break for lunch from 12:00pm-1:00pm, the qualifying matches will conclude by 2:00pm. At this time, the Engineer teams will enter the competition with a new schedule.

- The qualifying match schedule will be available after the opening ceremonies on the day of the competition. This schedule will indicate match pairings; it will also indicate the color's, red or blue, of each team
- Teams will be randomly assigned an opponent for each match
- All teams will be scored on the same number of qualifying matches.

### Rankings

1. Teams will be ranked first on their record of win-losses.
2. If more than one team holds the same record, total points will become first tiebreaker.
3. If teams are still tied after their record and total points are factored in, whichever team has the highest match score will break the tie.

### Penalties

Referees have the ultimate authority during the competition. Their rulings are final! NO exceptions! Teams deliberately trying to remove bags from scoring goals will forfeit the match.

- There must be no human contact with the field. No warnings will be given. Field Contact will result in a DQ.
- In case of a catastrophic field failure, the match will be replayed.
- If a robot becomes stuck on the field, any field element, or if a team runs out of battery during a match, no interventions will be taken. Only if a field element fails will a match be stopped.
- Pinning is not allowed. Any intentional direct robot contact for more than five (5) seconds is considered pinning (even in the middle of the field). The first time is a warning, the second is a three (3) point penalty.

## Competition Structure

Teams can be made up of two students and one adult, or all students. If the team consists of both student and adult, a student must be the driver.

Example:

1 student= driver

1 student= field coach 1

1 adult= field coach 2

The operator and the coaches are free to move anywhere inside their team's control area.

## Awards

**First Place Alliance**

Top Two Winning Teams

**Second Place Alliance**

Top Two Runner-Ups

**Engineer's Choice Award**

**Creativity Award**

**Community Service Award**

If you have questions, find someone wearing a black Lock Tight Night staff shirt. If that doesn't work, there's always Cha Cha.

**Good Luck & Have Fun !!!**