

Jousting Challenge Official Rules (RoboRAVE Kaga Japan 2018)

●**Goal:** To design, build, and program a line following robot that can knock your opponent's knight off first as the robots pass each other.

●**Who Can Play:**

Teams of 2 to 4 players in separate divisions for:

- Elementary School
- Middle School

●**Required Materials:**

• Autonomous robot (any platform, costing \$ 1,500 USD or less, and meets the following design constraints, which will be verified during check-in:

• **Volume of the robot must NOT exceed 65,030 cubic cm.** Click [HERE](#) for video.

◎Knights connecting structure (canning jar lid) can be attached using whatever material is practical, method of attachment cannot provide any support to the knight, and cannot provide any additional magnetic gripping force to aid the knight in staying attached to the structure.

◎Knights connecting structures are distributed to the Jousting teams at the time of team Check-in. (Of course, you can use one of your own bringing.)

◎Knight's connecting structure is no more than 4 inches (10.2cm) in front of the robot, and no more than 4 inches (10.2cm) above the track.

◎Knight's body is unsupported above the metal plate.

- Knight is attached to the metal plate using only some round "button" magnets.
- A line following sensor(s) is required.
- During practice, any of the official 2014 (yellow) ,2015 (blue), 2016 (white), or the 2017 (red) Jousting Knights are allowed. However, during qualifying or tournament competition you must use the official 2018 Jousting Knight (it will be provided at the track)

●**Challenge Track Specifications:**

- Two (2) parallel, 1.0" wide black lines on a white tarpaulin track
- Each line has a slight curve at the start.
- Three scoring zones: 150 points (0.0" to 6.0" from start); 100 points (6.0" to 12.0" from start); 50 points (12.0" to 36.0" from start)

● **General Rules of Play during a joust:**

1. Elementary and middle school teams play in separate divisions.
2. A line following program must control your robot's motion.
3. During the qualifying period there is no seeding, simply go to any track to find an opponent.
4. Run as many jousts as you are ready during the qualification period (Elementary and Middle School jousting teams need 5 qualifying scores)
5. During a jousting match, up to five (5) passes will be allowed to attempt to knock your opponent's knight off.
6. Only the lance can knock the knight off, if the knight is knocked off by a part of the other robot OTHER than the lance, repeat the joust.
7. If five (5) passes are used and no knight is knocked off, the joust will be considered a DRAW. No points are awarded to either team. Teams relinquish the track to the next teams waiting to joust.
8. If both knights fall, the last knight to hit the floor, as determined by the track official, will be awarded the win.
9. No part of your robot/Knight except the lance may cross the mid-line of the track (5.0" from either of the 2 parallel lines.)

● **Scoring:**

- There is NO Before Event Points.
- **The winning knight can earn score, but full score is only awarded if you knock your opponent off during the 1st of 5 attempts.**
- Scores awarded for successive attempts are in the table below.

IF your opponent lands in this point area	AND it is your 1st attempt knock off the opponent, your score is	AND it is your 2nd attempt knock off the opponent, your score is	AND it is your 3rd attempt knock off the opponent, your score is	AND it is your 4th attempt knock off the opponent, your score is	AND it is your 5th attempt knock off the opponent, your score is
50	50	40	30	20	10
100	100	90	80	70	60
150	150	140	130	120	110

- Higher scores are earned by knocking your opponent off closer to their START position.
- If the knight (not the lance) is lying in two point areas, the higher point value is awarded.
- The knight that falls to the floor first due to a lance earns zero (0) points.
- The top 5 scores that a team posts will be utilized to determine the top eight (8) teams that will advance to the Jousting Tournaments (on November 12nd).

● **Tournament Scoring:**

- The top eight teams from each division will compete in the final tournament.
- Advancing teams will be seeded into the tournament bracket according to their aggregate score (see bracket below).

“RoboRAVE Kaga Japan 2018” 8 Team Tournament Bracket

Tournament Placing

- The losing teams from Round 1 will place 5th through 8th in accordance with their aggregate score coming into the tournament.
- The losing teams from Round 2 will face each other in Round 3 to determine the 3rd and 4th place winners respectively.
- The winning teams from Round 2 will face each other in the Championship Round (which may be run at the same time as Round 3) to determine the 2nd place winner, and the Tournament Champion.

