ROBOX Sumo – Revision 031215

1. **DESCRIPTION:** Students will design and construct a robot (bot) from the provided materials. Each bot will attempt to move an opponent's bot from a ring.
   # OF TEAM MEMBERS: 2-3   **APPROXIMATE TIME**: 1 minute competition bout

2. **CONSTRUCTION DETAILS**
   a. Robots must be constructed from supplied materials only. Each team will receive the same materials.
   b. Robots must be controlled by provided controls. Motors on robot will be provided with connector for competition.
   c. Robots are powered by electricity only. Batteries will be part of provided controls.
   d. The robot's maximum dimensions will be 12" wide x 12" long x 12" high at any time in any configuration during the contest.
   e. The team number/name or robot name and the team member's names must be written on the robot.
   f. Maximum weight of any robot is 1.0 kg. This does not include the weight of the provided controls or battery.
   g. The robot may have devices to remove the opponent from the square except any projectiles (Tethered or untethered), flames, sharp objects (3mm radius), and magnets. Only parts from the kit may be used in the construction of the robot.
   h. The robot must have a means (lid, opening, flap) to insert and remove the standard control assembly. The control assembly will be available for inspection and testing during construction.

3. **COMPETITION**
   a. Competition will proceed in tournament fashion. Single or double elimination may be used.
   b. Once called to compete, teams will have a maximum of 90 seconds to prepare their bot. Any robot not ready to compete in 90 seconds will forfeit the match.
   c. Robots will be inspected and weighed before the first round of competition. After the first round, teams may affect repairs on their robot between matches but the robot must be re-weighed.
   d. Battery packs will be supplied by the event leader as part of the controls package.
   e. The "ring" will be a 5' x 5'square with designated starting points on each corner.
   f. Bots will start facing each other from opposite corners of the square
   g. Teams will have 60 seconds to force their opponent from the ring. If no winner has been declared at the end of the timed match, the lighter of the two robots will be declared the victor.
   h. Any bot damaging or depositing foreign substances on the surface of the ring will forfeit the match.
   i. If a part falls of a robot, at the judge's discretion, the clock can be stopped so the part can be removed from the ring. Then the match will continue.

j. If any judge determines that a bot is taking a defensive posture and is backing away continually for 15 seconds, time will be called and that team will receive a stalling penalty. This will reduce the clock by 15 seconds and the competition will resume where it left off. If it is the second stalling penalty, the team will forfeit the match.

k. If the bots become entangled so that neither bot can move for 10 seconds, the judges will stop the clock. The teams will place their bots back at the starting positions and the match will continue.

l. A judge may call time if any bot is obviously experiencing controls interference.

m. If the robot "brain" falls out or is dislodged from the robot, the referee may declare the match over and the other robot the victor.

n. When the match time is over, teams must stop operating their bot immediately or risk forfeiting the match.

o. Except as noted above, one the match has started, there will be no time-outs until the match is over.

p. Definition of "out of the Ring". A bot is declared the winner when the other bot is completely out of the ring (pushed outside the boundary line of the ring)

q. Any bot inadvertently leaving the ring under its own power forfeits the match.

4. **SCORING**

a. Any team that deliberately attempts to do physical damage to an opponent bot will be disqualified.

b. Final rankings will be determined as follows: The team that wins the tournament will be awarded first place. The team defeated by the winning team will in the last bout of the tournament will be awarded second place. All other teams will be ranked by the number of wins. Ties will be broken by:
    i. Total number of wins divided by robot mass (High score wins)
    ii. Robot mass (lower mass wins)

c. Bots that do not pass inspection may not compete against bot that meet specifications. All bots will be inspected before they compete.

d. Any bot that is determined to be unsafe by the event supervisor will be disqualified.