TEAMS

- Teams consist of 2-5 students.
- All participants must be current MSU students. Graduate and undergraduate students are eligible.
- All team members must be present at check-in the morning of the competition.
- To be considered eligible for prize money, team members must be present for check-in and all team battles.
- If a participant shows up with a completed robot, but does not have the required team members due to last minute drop-outs, they will still be allowed to participate in the competition portion.

CODING REQUIREMENTS

- All machines must use the ESP32 as the brains for their robot. Teams are allowed to use code libraries or code from other sources, provided that it was made available for use and its use does not infringe on intellectual property rights of the coder or license holder.
- While you are welcome to make your code as complex and customized as you wish, the entire project is doable using simple code that can be found online.

MACHINES

- Base plates may be glued to the platform. No glue can be used between Legos or the baseplate and the Legos. All structural supports must be made from Legos, excluding the base where you can attach components.
- No paint, adhesives, or other substances may be used on or between the Legos.
- The area of a weapon that comes into contact with an opponent's robot, must be able to freely detach during combat. See the illustration below for an example.

The point of contact can NOT be immovable.

Point of contact is not immovable

Point of contact is immovable

1. Allowed

2. Not allowed
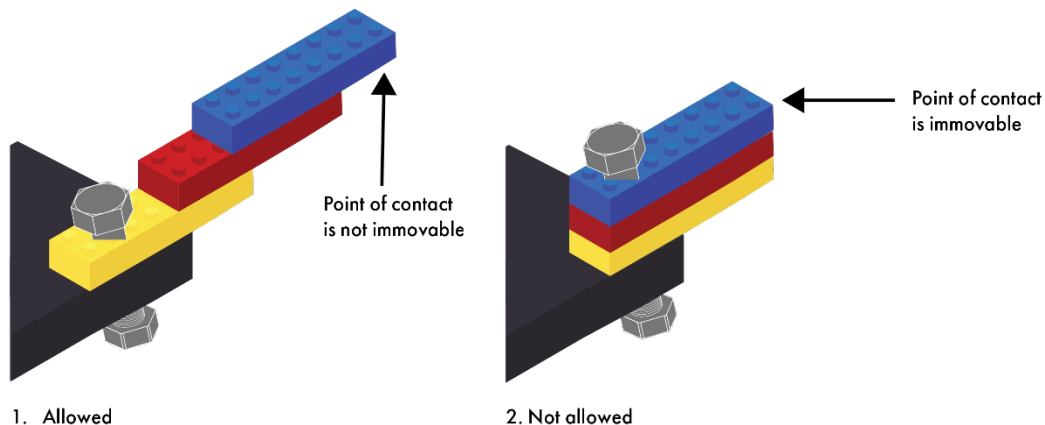
MACHINES (CONTINUED)

- Robots must be no larger than an 11-inch cube. This is measured by the robot being placed upright, on its wheels, in its normal fighting position. If the robot exceeds 11 inches in any direction, it will be disqualified. There is no minimum size requirement. Size will be checked at the time of sequestration.
- Repairs may be made to robots between battles, but only in the pit area and will be inspected before returning to future rounds.
- All bot weapons must be constructed from Legos. Lego Technic components are allowed. Projectiles, flamethrowers, and other types of weapons deemed dangerous by Hackathon staff or judges will not be allowed. Non-Lego components such as linkages, gears, belts, and other mechanical components required to make a weapon function are allowed.
- Wood or metal may only be used as a base platform to build off of. No wooden or metal wedges will be allowed, even if covered in Legos. The structure and structural supports of the robot must be constructed from Legos.

SEQUESTRATION

- The sequestration period will open on Monday, November 10 at 9 AM and will close on Thursday, November 13 at 4 PM.
- To be eligible for competition, all robots must be turned in for sequestration by the Thursday 4 PM deadline.
- Teams will be given the opportunity to correct any non-compliant robot and turn it in before the sequestration period closes. Teams are encouraged to bring their robot in early, so they will have time to correct any issues before the deadline.
- Once the sequestration period closes, no team will be allowed access to their robot until the morning of the competition.

BATTLES

- Round 1 matchups will be determined by team number (i.e., Team 1 vs Team 32). Following Round 1, teams will be added to the appropriate bracket based on whether they won or lost their first-round battle. Round 1 bracket will be built based off compliant robots that were turned in during the sequestration period.
- The competition will be double elimination. After two battle losses, teams will be eliminated from the competition.
- Each battle will last 3 minutes.
- A battle may be won by the following methods:
    - Incapacitation – Opponent does not show significant movement for 10 seconds, once the referee begins a countdown. "Significant movement" will be determined at the discretion of the referee. If a bot is knocked off the platform

and cannot return to the platform under its own power, the bot will be deemed incapacitated.

- Points – Points are awarded based on the judging criteria provided later in this booklet.
- Forfeit – Opponent is deemed ineligible by the referee or judges, or if the team chooses to forfeit the match. Reasons a team may forfeit a match might include irreparable damage from a previous match, or other malfunctions. Forfeits are considered a loss for purposes of elimination.

- If a team is not ready and unable to compete for any reason at the beginning of an assigned battle, they will forfeit the match and the other team will be awarded a win for that match.
- In the interest of time management, the schedule will be tentative. Matches will move forward as the previous one ends, rather than waiting for pre-determined times. If a bot is not ready at the beginning of their match, the team will forfeit the match. Some leeway may be given at the discretion of event staff and judges.
- In the event of a tie, a 1-minute rumble will be immediately conducted following the tie. The rumble will be scored in the same manner as a normal battle. Multiple 1-minute rumbles may happen in order to determine a winner for that battle, in the same way other sports can have multiple overtimes.

ADDITIONAL RULES

- The micro controller, servos, and other supplied electronics must be returned to the staff before teams leave the library on Saturday, November 16. If a team fails to return their components, the team captain (the one who registered the team) will be charged for the replacement cost via their Banner account. A returnables list will be provided.
- Prizes for winning teams will be divided among the team members and then distributed directly to each eligible team member. Winners should consult with DMC staff about claiming prize money.
- Students are allowed to receive assistance from outside of their team members, provided that the non-team member(s) do not build or do the work for them and only provide advice or guidance or assist with safe tool use to facilitate the build.
- All teams will receive a $10 3D Print allowance in the DMC Makerspace. If the $10 allowance is exhausted, a team will pay the normal 20 cents per gram rate in the DMC Makerspace.
- One game board will be available beginning Monday, Nov 10 for participants to test their robots if they wish. This will be available for use during normal DMC hours. Please check the library website for the hours.
- Any team found to be in violation of the rules is subject to immediate disqualification.

- In the interest of safety and good sportsmanship, judges and staff will have the final say on all decisions, including matters that may have been unforeseen and not explicitly included in the rules.
- Official answers to questions may be provided via the Discord Server, email, or in person.