Play

Pre-round Practice

1. When possible, teams will have access to practice fields for calibration and testing throughout the competition.
2. Whenever there are dedicated independent fields for competition and practice, it is at the organizers' discretion if testing is allowed on the competition fields.

Humans

1. Teams should designate one of their members as "captain" and another one as "co-captain". Only these two team members will be allowed access to the competition fields, unless otherwise directed by a referee. Only the captain will be allowed to interact with the robot during a scoring run.
2. The captain can move the robot only when they are told to do so by a referee.
3. Other team members (and any spectators) within the vicinity of the competition field have to stand at least 150 cm away from the field while a robot is active, unless otherwise directed by a referee.
4. No one is allowed to touch the fields intentionally during a scoring run.

Start of Play

1. A run begins at the scheduled starting time whether or not the team is present or ready. Start times will be posted around the venue.
2. Once the run has begun, the robot is not permitted to leave the competition area for any reason. Each run lasts a maximum of 8 minutes.
3. Calibration is defined as the taking of sensor readings and modifying a robot's program to accommodate such sensor readings. Teams may calibrate their robot in as many locations as desired on the field, but the clock will continue to run. Robots are not permitted to move on their own while calibrating.
4. Calibration involving pre-mapping the field and/or victims' location is prohibited. Pre-mapping activities will result in immediate robot disqualification for the round.
5. Before a scoring run begins, the referee will roll a standard 6-sided dice to determine the location of the black and silver tiles. The position of the black tiles will not be revealed to the team until they are ready to start a scoring run (see 4.3.7). Referees will ensure the combination of black tile placements in a field layout is 'solvable' before a robot begins a scoring run.
6. Before a scoring run begins the referee can change any walls of the field, (see 2.3.6).
7. Once the robot is started, a referee will place the black and silver tiles.
8. Once a scoring run has begun, no additional calibration is permitted (this includes changing of code/code selection).

Game Play

1. Modifying the robot during a scoring run is prohibited, which includes remounting parts that have fallen off.
2. Any parts that the robot loses intentionally or unintentionally will be left in the field until the run is over. Team members and referees are not allowed to move or remove parts from the field during a scoring run.
3. Teams are not allowed to give their robot any advance information about the field. A robot is supposed to recognize the field elements by itself.
4. A “visited tile” means that more than half of the robot is inside the tile when looking from above.

Lack of Progress

1. A Lack of Progress occurs when:
    a. the team captain declares a Lack of Progress.
    b. a robot visited the black tile. See definition of visited tile on rule 4.4.4.
    c. a robot damages the field.
    d. a team member touches the field or their robot without permission from a referee.
2. In the event of a lack of progress, the robot must return to the last visited checkpoint (or the start tile if never reached a checkpoint). The robot can be installed in any direction. For the definition of the visited tile (see 4.4.4).
3. After a lack of progress, the team must reset the robot by using a switch/button(s) located in a clearly visible location by the referee (see 3.2.10).

Scoring

1. A robot can carry out one or both of the following actions to successfully identify a victim:
    a. stop for 5 seconds and blink a visual indicator on and off for the full 5 seconds. The victim tile must be equal to the current visited tile at the same time.
    b. Stop for 5 seconds and deploy a rescue kit (see 4.6.3). The victim tile must be equal to the current visited tile at the same time.
2. 10 points are rewarded for each successful Victim Identification in the field:

3. To successfully deploy a rescue kit, a robot must deploy (deployment point) a rescue kit on the victim tile. The deployment point is deemed to be the location where the rescue kit makes initial contact with the floor, it is not the final resting place of the rescue kit.
4. 10 points are awarded per successful rescue kit deployment.
5. Points will be awarded for victim identification and rescue kit deployment.
6. Reliability Bonus = the number of 'successful victim identification' × 10 + the number of 'successful rescue kit deployment' × 10, minus the number of 'Lack of Progress' × 10. However, Reliability Bonus score can only be reduced to the minimum of 0 points.
7. Successful Speed Bump Crossing. For each tile with speed bumps passed, a robot is awarded 5 points.
8. Successful Up Ramp Negotiation. A robot is awarded 20 points for a successful climb up a ramp. To successfully climb up a ramp, a robot needs to move from the bottom horizontal tile before the ramp to the top horizontal tile after the ramp.
9. Successful Down Ramp Negotiation. A robot is awarded 10 points for successfully landing at the bottom of a ramp. A robot needs to move from the top horizontal tile of the ramp to the bottom horizontal tile of the ramp. A successful landing means that the robot can leave the tile without assistance.
10. Successful Checkpoint Negotiation.
    a. A robot is awarded 10 points for each visited checkpoint. Refer to 4.4.4 for definition of visited tile.
    b. A robot is awarded 10 points for each visited checkpoint reached in the first attempt navigating there from the last checkpoint before it.
    c. After three (3) Lack of Progress the robot is allowed to be placed on the next checkpoint. The robot is not awarded points for checkpoints reached that way.
11. Successful Exit Bonus. A robot is awarded 10 points for each victim successfully identified (see 4.5.1). The "exit bonus" condition is satisfied when the robot returns to the starting tile, stays there for at least 10 seconds to complete the scoring run.
12. Ties at the end. Ties in scoring will be resolved based on the time each robot took to complete the run.
13. No duplicate rewards. For example, if a robot successfully crosses a tile with speed bumps multiple times, only one successful speed bump crossing will be rewarded per tile. The same applies to all other scoring rules.

End of Play

1. A team may elect to stop the round early at any time. In this case, the team captain must indicate to the referee the team's desire to terminate the run. The team will be awarded all points earned up to the call for the end of the round.
2. The round ends when:
    a. the time expires.
    b. the team captain calls end of round.

c. the robot returns to the start tile and gets the exit bonus.