

# Rules for Folkrace during Swedish Robotics Championship

## Changelog

- *2018-01-25 - Specified pillar width and hill dimensions. Added a recommended ground clearance for the robots.*
- *2018-01-05 - Added the class 1:87 and associated rules*
- *2018-01-05 - Moved dimension- och weight-specifications for the different classes to a table*
- *2018-01-05 - Redefinition of the track to be made to scale to the relevant class*
- *2014-02-25 - Restructure of the competition format and the goal of the competition*
- *2014-02-25 - Smaller addition to the course (there may now be other obstacles)*
- *2014-02-26 - The robot is required to be able to get around the course alone*
- *2014-03-08 - Further restrictions on the robot (i.e. cling to other robots and being easy to pick up)*
- *2014-03-28 - Translation of Swedish rules to English*

## Rules at a glance

The goal of the competition Folkrace is to capture the happy and playful spirit of the “Folkrace movement”. In short, the robot shall travel around a course competing with several other robots at the same time. The complete rules follows below. Use your common sense when interpreting the rules. If you have any questions about them, please contact us at: [info@robotism.se](mailto:info@robotism.se).

## Rules

### 1. Goal

1. The goal is that the robot shall try to complete as many full laps around the walled course as possible before the time runs out.

### 2. The robot

1. The robot has to be mobile (be able to move from its own power) and autonomous (no external control is allowed)
2. The robot may be altered during the competition as long as the rules are followed. All physical alteration of the robot must be reported to the championship staff for approval before its next match. Alteration of the software does not have to be reported.

3. The robot may not change form during the race, i.e. the robot may not be built to expand beyond the size restrictions. The robot is however not disqualified if something brakes and expands beyond the size restrictions as result of this.
4. The robot may not be in a way that may cause it to harm any other robot, any human or its surroundings. Normal pushes and bangs are not considered as “harm another robot”.
5. The robot may not:
  - 5.1. Emit any gases, liquids or powder.
  - 5.2. Scratch or in any other way intentionally damage the surface of the course.
  - 5.3. Actively try to jam the other robot with e.g. EMP or other disturbance signals
  - 5.4. Fire projectiles.
  - 5.5. Use anchoring devices to attach itself to the other robots.
  - 5.6. Fly as a result of its own power.
6. The robot must be prepared for remote start according to the document “System for starting sumo robots”.
7. The robot shall have a coloured marking clearly visible, both on top and under the robot (for the event that the robot is upside-down). The colour marking may be for example an RGB-led or coloured tape, provided by the championship management.
8. It shall be possible for the championship staff to easily pick up the robot. The competitors shall inform the championship staff if any special procedure is required. The robot may, due to this, not have any exposed parts that may hurt someone picking the robot up.
9. The robot must be able to complete a full lap on the course in less than 3 minutes. This is controlled during the robot registration.

### 3. Classes

<b>Class</b>	<b>Mass (g)</b>	<b>Size (width x length x height) [mm]</b>
Standard	1000	150 x 200 x 150
1:87	1000	30 x 276 x 52*

\* The measurements are rounded from the maximum allowed sizes for swedish road-vehicles. These measurements do not consider details such as rear-view mirrors or protruding buttons. Keep to these sizes to the best of your ability.

### 4. Inspection

1. During the registration, the robot has to complete a full lap to be allowed to compete. This lap is performed with no other robots on the course.
2. The championship management has the right to do additional inspections of the robots at any time they see fit during the competition.
3. The championship staff has the right to demand changes to the robot if the it is not compliant to the rules.
4. If you cannot perform the changes you have been instructed, you may lose the race, or in extreme cases be disqualified from the competition.

## 5. The course

1. The surface of the course is mostly matte black. The wall around the course is white and about 80% of the classes max height. The width of the course varies and is most often 5\*(the width of the class) wide. It is however always at least 3\*(the class width).
2. The course may have simpler obstacles, such as small hills and pillars at the rim. The width of the pillars is at least half the width of the class. The colour of the course may also shift in some places. The smaller the class is, the nicer the specifications for hills and ground clearance will be. The maximum angle of the hills is 25° and the maximum height is 1.5\*(the class height). Least recommended ground clearance is 10% of the class height.
3. There are two markings on the course (one start line and one middle line). The colour of these is unspecified and might vary.

## 6. The competition

1. A total of 4 robots competes at the same time on the course. The robot with the most points after 3 minutes wins. If more than one robot has the same amount of points after, the robot closest to completing a lap wins.
2. At start the competitors place their robots on the starting line, with a spacing of at least 5 cm to the edge and 5 cm to the next robot. The start position of each robot is decided by chance. All robots start in the same direction. The competitors move away from through course. Afterwards the referee asks the competitors if they are ready and then sends the start signal. The robots may not move until the start signal is sent.
3. If a robot starts to move before the start signal is sent this is considered a false start. Each robot may perform one false start per race. If a robot performs a second false start, it is disqualified from the race and is removed.
4. On the course, there are two markings: the start line and the middle line. Every time a robot passes the start line in the correct direction (which is the same direction the robots started) the robot is awarded one point.
5. If a robot passes the start or middle line in the wrong direction, it is picked up by the competition staff and immediately put down in the correct direction again.
6. The competitors may at any time alert to the competition staff that they want their robot corrected (called "to flag"). This can happen for example when the robot is stuck, is upside-down or is traveling in the wrong direction. When the competitor signals, the robot is picked up by the competition staff and immediately put down in the correct direction again. The robot is then deducted one point.
7. Competitors may at any time give up. This is done by signalling to the referee who then removes the robot from the course. Alternatively, the competitor may remove his or her robot upon the judges instruction.
8. If the judge considers the rules to be violated by one robot, it will be disqualified and removed from the course.

## 7. Rule conflicts

1. Use your common sense when interpreting the rules. If there are any rule conflicts, the main referee has the final word to say what is right and what is wrong.