# GIRLS TRIATHLON COMPETITION RULES

## 1. Introduction

This document outlines the rules for the Triathlon robot competition.

## 2. Description of the Competition

One operator and two assistants can be registered for each robot (there can be a maximum of 3 team members in total). However, only one operator is allowed to guide the robot during the competition. The area where the competitions take place is called the Triathlon Track. Each competitor invited to the Triathlon track for the competition accepts the competition rules and winning conditions and must participate in the competition using only the robots he/she has made or programmed. Robots must perform consistently one run at a time. Robots place their robots in the area determined by the competitor on the Triathlon track. After docking, the competitor starts the robot and is watched as it finishes the Triathlon course. At the end of the competition, the robot with the highest score in the ranking resulting from the score calculation is declared the winner by the referees.

### 2.1. Fixture

The competition format is determined by the tournament organizers depending on the number of participants. Teams have 3 rounds of 3 minutes each to complete the competition. After all teams participating in the competition complete their 1st Round qualifications, the 2nd and 3rd rounds are held respectively.

### 2.2. Classification and Rating

Fibonacci International Robot Olympiad It takes care to classify and grade triathlon competitions by taking into account education level and age groups. It can be divided into 5 basic groups: kindergarten (0-6), primary school (6-10), secondary school (10-14), high school (14-18) and university (18+). The age group and education level of the team is determined by the age or education level of the oldest member of the team. It is the responsibility of the team **mentor to ensure that teams are registered in the correct age category .** If during the competition it is determined that the team is registered in the wrong age category, the robot of this team will be **disqualified from the competition** .

**Note:** Teams in the younger age group are allowed to compete in the older age group. The organizers reserve the right to check the age of contestants during the competition. In case of violation, the robot of the team that violated the rules will be **disqualified** .

## 3. Competition Field Description ( Triathlon )

The competitions will be held on a field called “Triathlon”, which has dimensions of 210 x 280 cm. The robot is placed in the green area and started when it is ready.

The order of the robot’s tasks is as follows:

- Line Following Area (210 x 135 cm): The robot completes the task by following the line in this area.
- Maze Solving Area (210 x 60 cm): The robot tries to find the exit path in this area.
- Dohyo Area (210 x 85 cm): In this area, the robot is tasked with removing all cups located in two dohyos with a diameter of 55 cm outside the red area.

After successfully completing all tasks, the robot finishes the game by reaching the red area.

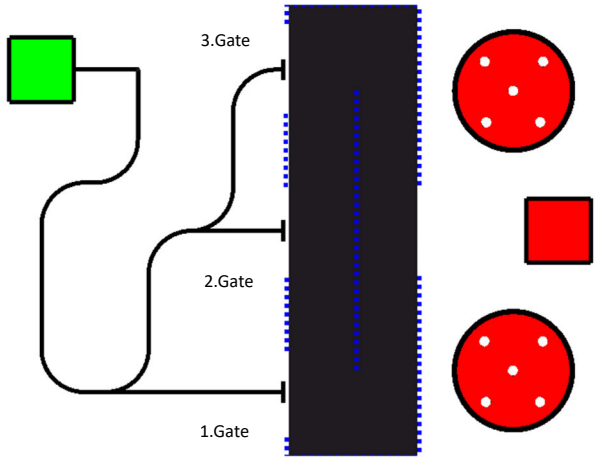


Figure 1: Triathlon Measurements

| Class | Wall Height | Width | Length | track material |
|---|---|---|---|---|
| triathlon | 12cm | 210cm | 280cm | Wood/Plastic |

Table 1: Field Parameters

### 3.1. starting area

The robot is initially left in the green area shown in Figure 2 and is started when ready.

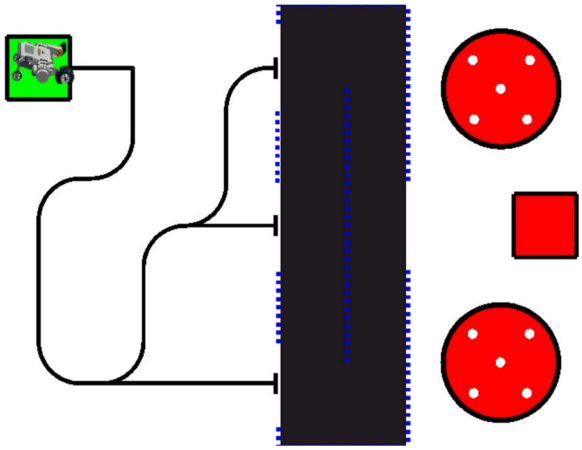

Figure 2: Starting positions of the robot

## 4. Robot

**4.1** Triathlon robots must initially have a maximum width, length and height of 20cm (200mm) and a maximum weight of 1000g. It can expand 10cm(100mm) in any direction after the competition starts.

| Class | Weight | Length* | Width* | Height* |
|---|---|---|---|---|
| triathlon | 1000g | 20cm | 20cm | 20cm |

Table 2: Size and Weight Limitations

**4.2** Robots cannot be divided, cannot leave or throw away any part of themselves during the competition. Competitors must secure the parts of their robots so that they do not fall. If a part of the robot falls, the time is stopped and the round is considered completed and the scoring is calculated based on the performance shown up to that point.

**4.3** Robots can change shape (expand) during the competition.

**4.4** . Robots cannot use parts of mechanisms that will damage the field. Any robot that damages the field will be disqualified.

## 5. Match Rules

**5.1** Competitors must be in the competition area, ready to compete, within 3 minutes after the names of their robots are announced.

**5.2** After the competition starts, the contestant is given 1 minute of preparation time. At the end of the preparation period, you can take your robot to the Triathlon race with the instructions given by the referee. Starts the tasks in the track to perform.

**5.3** Teams can intervene in the structure of their robots between rounds. During the tour, the contestant cannot leave the area or give his robot to an assistant outside the competition area. During the match, the competing robot cannot leave the competition area for any reason.

**5.3.1** If the robot strays from the line while following the line, the contestant can continue by placing the robot on the line in the area indicated by the referee. This situation is noted as a fault by the referee.

**5.4** After completing and passing the line tracking area, the robot moves to the maze area, which has a black floor and 12cm high walls. It is expected to find its way out without touching the walls. If the robot touches or gets stuck on the wall, the referee can contact the robot and help it find the way, with the permission of the referee. This situation is noted as a fault by the referee.

**5.5** The robot that passes the wall obstacles will be met by the dohyo area. Two dohyos are placed, with 5 cups in each. The robot will enter the dohyo from any area and try to position these cups outside the circle. While the robot is trying to position the cups outside, it must not leave the dohyo. Once the robot completely leaves the dohyo, it must move either to the other dohyo or to the finishing area. When the robot reaches the finishing area and stops, or when it leaves the second dohyo, if it re-enters the first or the second dohyo again, the referee will stop the match and the scoring will be done based on the robot’s performance up to that moment.

**5.6** The robot entering the Dohyo area is never interfered with, and the cups are not collected. If the robot or the cup comes into contact with the robot, it is considered as not completing the Triathlon course. The referee stops the competition and scores based on the robot's performance so far.

**5.7** Separate scoring is given for each task performed by the robot. For teams with equal points, the lower time will be taken as basis.

| Duty | Score |
|---|---|
| Line Trace 1.Gate | 30 Points |
| Line Trace 2.Gate | 40 Points |
| Line Trace 3.Gate | 50 Points |
| Maze Solving | 30 Points |
| Entering the 1.Dohyo Zone | 10 Points |
| Entering the 2.Dohyo Zone | 10 points |
| Emptying a Glass (10 Points for Each Glass) | 100 Points |

Table 3: Mission Points

| Punishment | Score |
|---|---|
| Line Tracing Defect (Maximum 4 times) | 10 points |
| Maze Solving Flaw (Maximum 4 times) | 10 points |
| Leaving the Track Area | 10 points |
| Contact in the Dohyo Field | 20 Points |
| Not Stopping in the Finishing Area | 20 Points |

Table 4: Penalty Points

## 6. Objections

The juries' decisions are final and not subject to subsequent review. If a solution cannot be reached with the juries, objections must be submitted immediately to the Fibonacci International Robot Olympiad Chief Referee. Complaints made after this point will not be accepted. In case of disagreement or disagreement, the final decision will be made by the Juries and/or organizers.

**Note:** Rude behavior will not be tolerated. A team that does not respect the decisions of the judges, referees or referees may be disqualified by the referee and/or event organizers.

**6.1** Competitors cannot raise objections due to field factors after the round has started. These factors are eliminated by the referees with warnings made before the round.

**6.2** The competitor may make a verbal objection to the referee for the result of a round after that round. When the next round begins, the contestant loses his right to verbal objection.

**6.2.1** The contestant may present the evidence he/she has to the referee within the scope of the objection. The referee can decide according to his own logic when there is a situation outside the rules.

**6.2.2** After the rounds are over, the contestant may submit a written objection to the verbal objection decision until the next round begins. This objection must be written and submitted to the chief referee in the form of a petition.

**6.2.3** The chief referee makes final decisions on the objections made. Decisions cannot be appealed again.

**6.3** Competitors who do not comply with the referees' warnings or disrupt the course of the competition will be disqualified.

**6.4** Fibonacci robot competition reserves the right to make any changes it deems necessary in the rules.

## 7. Marking of Robots

Robots must be checked by the referees before the tournament and their number labels (Robot Number / Team Their IDs should be labeled with ). These stickers are provided by the competition organizers. The sticker cannot be placed on the robot or any other component that could interfere with the operation of the opponent's sensors . Before each new tour, robots must undergo technical control again.

## 8. Changes and Cancellations to the Rules

Changes and cancellations in the specifications are made by the main organizer of the competition in accordance with the regulations of the competition organizing committee.

## 9. Security Measures of the Competition

| Class | gloves | Glasses |
|---|---|---|
| triathlon | not necessary | Not Required |

Table 3: Security Requirements

**9.1** The robot entering the triathlon is responsible for the actions it takes both to complete the task and to move in the field. A design must be made to avoid actions that could endanger the spectators, the referee and the competitor.

**9.2** Competitors will not be allowed into the competition area with any electronic device (e.g. phone, tablet, RF remote control).

**9.3** Interfering with robots without stopping the match is extremely dangerous. Competitors who intervene despite this will be disqualified.

**9.4** Robots with swollen batteries or leaked fluids cannot be raced. If dangerous situations such as short-circuiting or smoke are detected in a robot during the competition, the competition will be stopped and the robot will be disqualified.

## 10. Disclaimer

the Triathlon Category, robot competitors must work carefully and take the necessary precautions at every stage of the competition. Despite this, Fibonacci International Robot Olympiad Organizers disclaim all liability for any material damage or injury that may occur .