

# RCJ Euro 2024 Rescue Line / Line Entry: General Notes

## - Tournament

- Refer to <https://2024.robocupjunior.eu/> for official rules and general information
- 9 scoring runs per team; only the best 7 are included in the final score (Line: no normalization will be applied; no rubrics-based scoring and no technical challenge)
- Run start times can be found on time tables close to the team area / info point
- Show up at competition area **at least 5 minutes before your run**, or better even 10
  - Referees at the entrance will assign you to a field (you won't know the exact course beforehand)
  - Maximum 2 team members at the field / in the competition area
- If you want to move your run because of technical issues, show up at the info point **at least 15 minutes prior to your scoring run**
- Scores and other information will be put next to the time tables
- There is no meeting with all teams (which you may be used to from prior competitions)
- For testing, you can use the test fields in the team area: Tiles have to stay there; additional material (e.g., obstacles, speed bumps) can be borrowed at the info point
- A SuperTeam competition is planned for Sunday; details will follow Saturday noon latest

## - Robot

- Robots must be controlled autonomously (any external control is not allowed)
- Pre-Mapping is prohibited
- Robot construction and programming must be solely the work of the students
- Rule violations may lead to temporary or permanent disqualification
- Robots must be equipped with a handle (easy to reach and non-moving part of the robot)

## Scoring Run

- Total time of up to 8 minutes
  - Optionally, cleaning the field and/or calibration (robot must not move on its own)
  - How to start / reset in case of LoP?
  - Who is the team captain? → Manually starting the robot, calling LoPs, resetting the robot
  - Scoring run
- Robot must not damage the field
- No modification of the robot during the run
  - Parts that have fallen off must remain where they are
  - Loose parts may be neither reattached nor removed completely
  - Changing the program is not possible
- Seesaws must be moved **by the team** and only during a LoP (get yourself used to the seesaw construction; if the robot accidentally moves the seesaw, you may only adjust it with the next LoP)
- **Lacks of Progress**
  - **Every contact with the robot** counts as a LoP (**only use the handle!**)
  - Lack of Progress (LoP) can be requested by the team captain at any time
  - LoP may be called by the referee if the robot does not follow the line, deviates from the intended course, or damages the field
  - Power may be cut off (no program switch allowed)
  - Robot must be placed to last visited checkpoint
  - After 3 attempts, you can skip to the next checkpoint
  - Teams may move checkpoint markers to not interfere with the robot
  - If the robot falls down, captain or co-captain may catch it (referees will not do so)

## - Scoring

- Robots must follow the line on every tile (if not found until next tile, LoP)
- When reaching a checkpoint, points for the completed section
  - Section completed on 1st/2nd/3rd attempt → 5/3/1 points per tile
  - 4th+ attempt or skipped → 0 points per tile, still points for scoring elements
- A tile only counts as reached when more than half of the robot is within that tile when viewed from above and the robot is actively following the line at that point in time
- Points for scoring elements are only awarded when the next tile is reached
- Intersections 10 points each
  - Line:
    - Follow path indicated by green markers (just before the intersection)
    - Continue straight if there is no green marker before the intersection
    - Turn around if there are two green markers before the intersection
  - Line Entry:
    - Turn left/right at intersections
    - Direction will be announced (probably next to the time tables or at the fields)
- Obstacles 20 points each
  - If moved, the obstacle remains where it is
  - Points are still awarded as soon as next tile in course is reached
- Seesaw 20 points each
- Speed Bumps 10 points each per tile with speed bumps
- Ramps 10 points (for an entire ramp)
- Gaps 10 points each per tile with gap(s)
- Evacuation Zone
  - Position of the evacuation points may be randomly decided when the run starts as well as during LoPs
  - Successful victim rescues result in multipliers:
    - x1.4 for a living victim (Line: green evacuation point)
    - x1.4 for the dead victim (Line: red evacuation point) if both living victims (Line) / at least one living victim (Line Entry) have/has already been rescued
    - Line: Deduction of 0.05 from each multiplier for LoPs between checkpoints (or checkpoint and goal tile) containing an evacuation zone (multipliers will not be less than 1.25)
    - Line Entry: Deduction of 0.05 from each multiplier for LoPs behind the last checkpoint (multipliers will not be less than 1.25)
- Line: Exit Bonus
  - Goal tile isn't a regular checkpoint; the final section is only awarded points if the robot stops on the goal tile for 5 seconds

## - After the Scoring Run

- Team captain revisits scoring sheet with the referee and confirms it with a signature (only the written numbers, not the tally lists are relevant)
- In case of complaints:
  - Note your complaint on the back of the sheet and sign it anyway
  - Discuss it with the organizational committee (info point), not with the referees at the field

**Complaints about the fields before the very first run of the day!**