LINE TRACING

Name of Event:	LINE TRACING
Length of Event:	TBA
Robot Weight Range:	Pls refer below
Robot Dimensions:	Pls refer below
Arena Specifications:	Pls refer below
Robot Control:	Fully Autonomous
Event Summary:	Participants are required to build an autonomous, self-contained mobile line tracing robot that is able to follow a black line on a white surface at the fastest time possible from the start line to the end line, following the proper designated route of the track specified by the referees.

1. **Robot Dimensions**
   a. A maximum of 20cm by 20cm by 20cm size is allowed throughout the whole run.
   b. Participants will need to take into considerations of the design of the track.

2. **Restrictions on Robot Design**
   a. Robots Can use any Processor as the core processor
   b. Robots can be using any other parts or sensors that are not programmable logic controllers.
   c. External Remote Control of any sort wireless or wired is STRICTLY PROHIBITED.
   d. Any strong light, example lasers, etc… of any sort that is damaging to human eyes are not allowed.
   e. Robots shall not damage the race track in anyway, deliberate or not.
   f. Robots are not allowed to secure themselves in any way to any part of the race track including the edges or outside of the race track.
   g. Robots shall not cause any danger to the race track & surroundings in anyway whatsoever.
   h. Robots will need to protect their sensors if necessary from any outside interferences.

3. Game Rules

a. The robot is supposed to follow the Black line as fast as possible from the Starting line to the Finishing line.

b. Robots will be placed at the starting line with the WHOLE body of the robot placed BEHIND the starting line.

c. Timings may be taken digitally by track sensors so human error is eliminated as much as possible.

d. A penalty of 2 seconds is added to the total race time for EVERY event that the robot goes off track, or Human Intervention is requested / required.

e. Once the robot goes off track, participants are to take their robots and place them back at the start of the closest check point.

f. The robot is supposed to finish a total of 2 laps and timing taken at the end of the 2 laps.

4. **Lines**

a. The Black lines are approximately 18mm to 21mm in width.

b. Possible line structures

i. Right Angles

ii. Curved U-turns

iii. Cross sections

5. Maps

a. The Maps will be approx. 2m x 2m in size.