School of Robotics

Engineering Technical Challenge (ETC) Mar 2024

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SCHOOL OF ROBOTICS

ETC – Senior Level

Objectives of the competition	The ETC competition's primary objective is to assess the performance of the students in dynamic and competitive environments, offering them invaluable experiential learning opportunities. The competition specifically evaluates participants' abilities to independently devise and construct a robot while coding it on the spot. The focus is on evaluating their aptitude to build and code within predefined time limits and task parameters, fostering essential skills for problem-solving and innovation.
Age Group	Primary 4 and above (as of year 2024)
Registration Fee	A nominal fee of $10 is applicable, with free registration for all FLL participants.
Electronics	Participants will utilize Spike Prime, consisting of 1 Hub & 2 Motors (provided by SOR). Every participant must either bring their own laptop or opt to borrow one from SOR for a fee of $10.
Robot Size	The constructed robot should fit within the dimensions of up to 25cm x 25cm x 25cm.
Date	15 March 2024, Friday
Venue	SOR @ Ang Mo Kio Djitsun Mall [5 Ang Mo Kio Central 2 #02-01/02]
Duration	The competition will run from 1030hrs to 1530hrs, with a 45-minute lunch break.

Proposed Schedule	1000hrs to 1030hrs	Reporting time / registration
	1030hrs to 1045hrs	Briefing of the competition rules and scoring system
	1045hrs to 1200hrs	Commencement of competition, involving building and coding
	1200hrs to 1245hrs	Lunch break (participants are responsible for their lunch)
	1245hrs to 1445hrs	Final coding, testing & calibration
	1445hrs to 1500hrs	Setting up for the Robot Runs
	1500hrs to 1530hrs	Execution of Robot Runs 1 & 2, with each run lasting 2 minutes

Competition Rules	• Participants are tasked with building a robot car without any instructions. • The challenge involves programming the robot car to deposit items into specified locations (details to be provided on the actual day). • Participants are welcome to utilize line tracing or color sensing techniques, although it remains optional. • Programs must be an autonomous state. • Each run has a time limit of 2 minutes.

Scoring Sample (subjected to change)	Build a car without instructions	10 points
	Build a car with instructions	0 points
	Items collection	90 points (max)

Awards	Gold: 80 to 100 points Silver: 60 to 79 points Bronze: 40 to 59 points Participation: 0 to 39 points