

**The TDA Tech Series®** [click here](#)

**Presents**

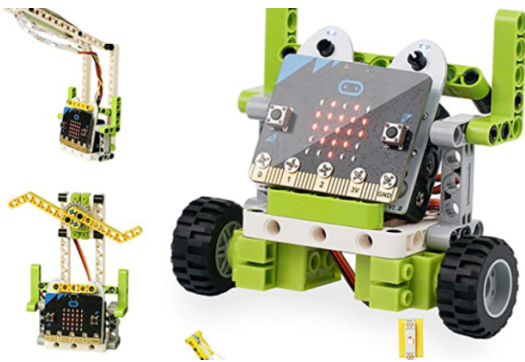
**“TDA ROBOTICS”**

## What Is “The TDA Tech Series®”?

**The TDA Tech Series®** is our platform for delivering technical and technological skills through innovative partnerships. *In 2022, our goal is to open the programme to non-TDA students.*

**#MultiplePathways**

## What is “TDA Robotics”?



What is Robotics? Robotics is a lab-based course that uses a hands-on approach to introduce basic concepts of robotics, while focusing on the constructing and programming of autonomous mobile robots.

The programme leverages the ability of robots to capture the attention of learners, as well as the excitement of head to head competition to inspire and engage the students.

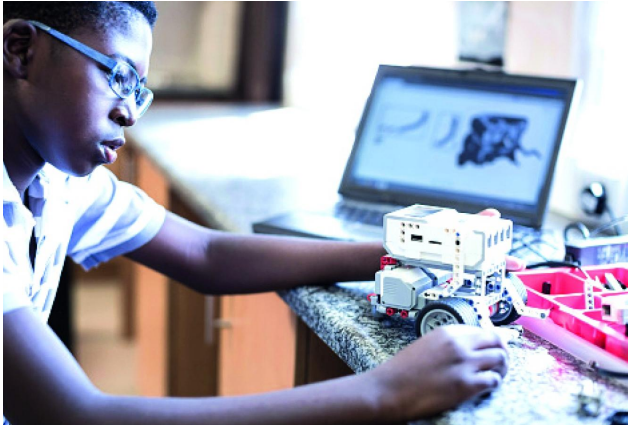
**@TDA**, the robotics programme will focus on practical solutions to everyday problems in the community. Through competitions such as “**The Robot Olympics**”, students will use their expertise to complete a number of challenges in a competitive environment. This will spark their creativity so they can also apply their skills towards solving problems in the community.

**#GROWING PROBLEM SOLVERS**

**Courage. Creativity. Community.**

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## **Announcing TDA Robotics (NOW OPEN TO TDA AND NON-TDA STUDENTS)!**



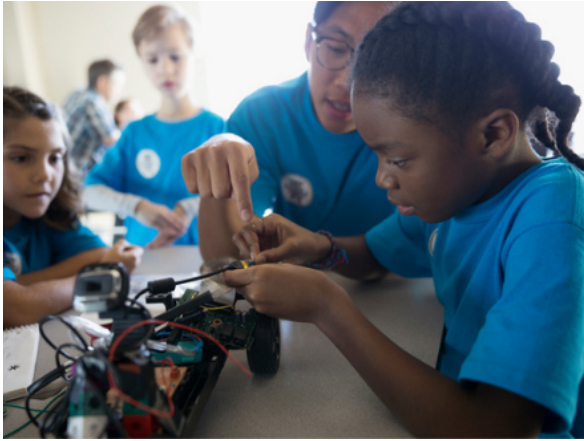
In the inaugural installment of The TDA Tech Series® Robotics programme, 10 Secondary School students **(Both TDA and Non-TDA)** will be given the opportunity to learn how to build and programme robots! The students will learn how:

1. To explore the scope of robotics software applications
2. To understand basic components and building blocks of robots
3. To develop robot construction skills
4. To program the robots using software
5. To program autonomous mobile robots to achieve challenging tasks

**Note that previous robotics or computer knowledge is not required.**

The course will be led by our TDA Tech Series® Fellow, Mr. Patrick Matsanura. To learn more about Mr. Matsunara's professional summary click [here](#); to learn more about the TDA Fellowship programme click [here](#).

## Why Introduce Robotics @TDA?



Robotics is a collection of different disciplines that provides students with knowledge related to Science, Technology, Engineering and Mathematics (STEAM). Click [here](#) to find out more about the importance of robotics in education.

**@TDA** we believe that imparting this range of expertise in an integrative and fun way will facilitate the development of logical thinking while stimulating **#Creativity** and familiarity with programmable

day-to-day objects we all interact with. *In 2022, this vision is being extended to Non-TDA students within our **#Community** and beyond.*

We want students to benefit from the programme, as robotics can help improve their development in various ways, some being:

- Improving self-esteem as well as tolerance for frustration
- Promoting logical thinking, intuition and creativity
- Developing problem-solving skills
- Facilitating achievement of goals and objectives
- Fostering and stimulating skills that will be important in their future (e.g. analytical reasoning, logical reasoning and critical thinking) **#DigitalFluency@TDA**

**As always, Covid-19 prevention guidelines will be strictly followed.**

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## How Will it Work?

The programme is open to a total of 10 **TDA and Non-TDA Secondary School students**. The programme will run three times a week, every Monday, Tuesday and Thursday from 13:35 to 15:05.



The course will be divided into 2 Terms. Term 1 2022 consists of lectures, guided discovery, video and multimedia presentations, group work and discussions, laboratory investigations, group activities, homework and assessments. Topics covered will include:

1. Introduction to robotics and programming,
2. Safety and project management related to robotics, mechanics motors and gears,
3. Electricity and batteries in robotics,
4. Microcontrollers and sensors in robotics,
5. Set-up and fundamentals of robotics motion, and
6. Radio control in sensing and controlling of robots.

In Term 2 of 2022, students will apply all the theories they learned in Term 1 in a project environment, with topics covering planning, design, implementation, testing, presentation and documentation. Students will work in a small group to achieve set goals through collaborative learning. Collaborative learning allows students to work together to solve programming based problems, thereby helping them in understanding, and at the same time constructing a shared understanding of concepts and their applications. This will culminate into an end of programme event called "**The Robot Olympics**" which will involve the students applying their new skills through competition. Click [here](#) to find out more about the robots we will be using.

At the end of this programme, **the TDA and Non-TDA Secondary School students** will obtain **a strong foundation in robotics, an understanding of how robotics can be applied to daily life and new insight into a skill they can pursue as a career.**

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## How do Students Apply?

Interested **TDA and NON-TDA Secondary School students** are eligible to apply.

<b>TDA STUDENTS</b>	<b>NON-TDA STUDENTS</b>
Email a one page typed document to <a href="mailto:tdatechseries@thedowacademy.org">tdatechseries@thedowacademy.org</a> <b>OR</b>	Email a one page typed document to <a href="mailto:tdatechseries@thedowacademy.org">tdatechseries@thedowacademy.org</a> <b>OR</b>
Submit a handwritten letter to your class teacher.  The application should describe why the student is interested in the programme, and how they would use the skills they learn to help their community.	Submit a handwritten letter to the TDA Primary School Campus Reception, with <b>"TDA ROBOTICS"</b> written at the top of the letter.  The application should describe why the student is interested in the programme, and how they would use the skills they learn to help their community.
<b><u>TDA PARENTS</u></b> - Please click <a href="#">here</a> to confirm consent for your child to participate.	<b><u>NON-TDA PARENTS</u></b> - Please click <a href="#">here</a> to confirm consent for your child to participate.

*10 students will then be selected based on the quality of their applications **AND** the parents' completion of the parent consent form.*

The deadline for the application is **20 January 2022** and will be strictly enforced. For the selected students, there is a participation fee that will be due by **26 January 2022**.

## When Does it Start and How Much Does it Cost?

TDA Robotics Programme	1 February 2022 - 4 August 2022  13:35 to 15:05 Mondays, Tuesdays and Thursdays When TDA school is in session
Venue	The Dow Academy Secondary School
Cost	P1,500 per student <b><u>This is a one-time fee for the whole two term programme.</u></b>

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