The TDA Tech Series® click here
Presents
" THE ROBOTICS PROGRAMME"

What Is "The TDA Tech Series®"?

The TDA Tech Series® is our platform for delivering technical and technological skills through innovative partnerships. **#MultiplePathways**
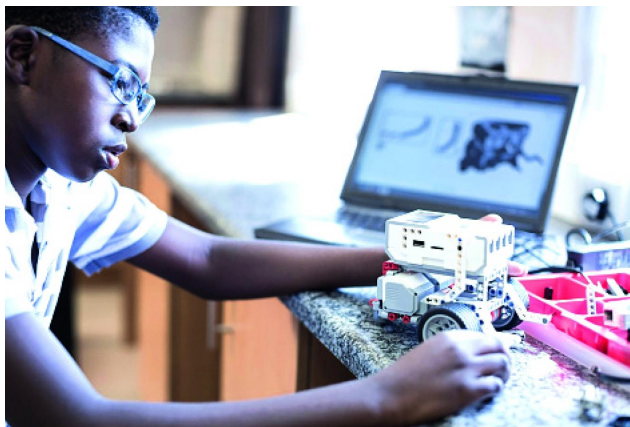
What is "The Robotics Programme"?

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.

Announcing The Robotics Programme (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 applications
2. The basic components and building blocks of robots
3. To develop the robot construction skills
4. To learn to program the robots
5. To program autonomous mobile robots to achieve challenging tasks

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

Why Introduce the Robotics programme @TDA?
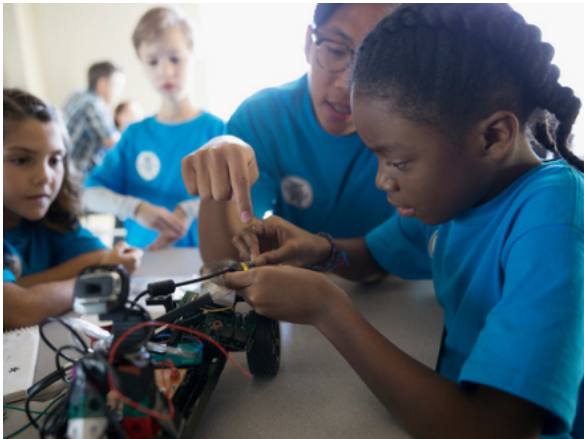
Robotics for young people is a collection of different disciplines that provides them with knowledge related to Science, Technology, Engineering and Mathematics (STEAM). Click **here** to find out more about the importance of robotics in education.

@TDA we believe that passing on 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 they come into contact with. _In 2022, this vision is being extended to Non-TDA students within our community and beyond_.

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

- Improved self-esteem as well as tolerance for frustration
- Promotion of logical thinking, intuition and creativity
- Development of problem-solving skills
- Facilitation of achievement of goals and objectives (and assisting in this becoming a habit)
- Fostering and stimulation of 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 13:30 to 15:00.

The course will be divided into 2 terms with term 1 consisting of lectures, guided discovery, video and multimedia presentations, group work and discussions, laboratory investigations, group activities, homework and assessments. Topics covered will include; introduction to robotics and programming, safety and project management related to robotics, mechanics motors and gears, electricity and batteries in robotics, microcontrollers and sensors in robotics, set-up and fundamentals of robotics motion, and radio control in sensing and controlling of robots.

In term 2, students will apply all the theories they would have learned in term 1 in a project environment, with topics covering planning, design, implementation, testing, as well as presentation and documentation. The students will work in pairs, or in groups of 3 to achieve set goals (Collaborative learning). Collaborative learning allows students to work together to solve programming based problems, thereby helping them in reconciling differences 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 all they have learned in competition.

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.

TDA STUDENTS	NON-TDA STUDENTS
Email a one page typed document to tdatechseries@thedowacademy.org **OR**	Email a one page typed document to tdatechseries@thedowacademy.org **OR**
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 **"TDA ROBOTICS"** 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.
TDA PARENTS - Please click **here** to confirm consent for your child to participate.	**NON-TDA PARENTS** - Please click **here** 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
Venue	The Dow Academy Secondary School
Cost	P1,000 per student* **This is a one-time fee for the whole term.**

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