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. **#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 construction 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 competitions 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 to solving problems in the community. **#GROWING PROBLEM SOLVERS**

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

In the next installment of The TDA Tech Series® Robotics programme, 20 Standard 3 to Standard 6 primary school students **(Both TDA and Non-TDA)** will be given the opportunity to learn how to build and programme robots!

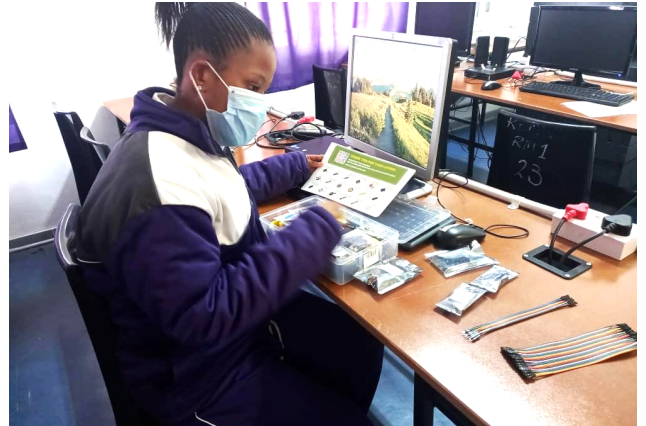### Courage. Creativity. Community.
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The students will learn how:

1. To explore the scope of robotics software applications
2. To understand the 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 Mr. Thebeetsile Mosarwe.
Please click here to find out more about Mr. Thebeetsile.
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, Art 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.

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*In 2023, this vision is being extended to 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**

How Will it Work?

The programme is open to 20 Standard 3 to Standard 6 TDA and NON-TDA students. TDA Robotics is a two-term programme with a commitment through Term 1 and Term 2 of 2023.

The programme will run two times a week, every Monday and Wednesday, from 14:00 to 15:30 at The Dow Academy Primary School.

The course will be divided into 2 Terms. **Term 1 2023** consists of lectures, guided discovery, video and multimedia presentations, group work and discussions, laboratory investigations, group activities, homework and assessments.

Topics covered include:

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

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In Term 2 of 2023, students will apply all the theories they learned in Term 1 in a project environment, with topics covering:

1. Planning,
2. Design,
3. Implementation,
4. Testing,
5. Presentation,
6. 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"** that will take place in **Term 3 2023**.

The competition will have the students apply 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 Primary 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.**

How Do I Apply?

Interested Standard 3 to Standard 6 **_TDA and NON-TDA Primary School students_** are eligible to apply.

NON-TDA STUDENTS: Email a one-page typed document to tdatechseries@thedowacademy.org **OR**

Submit a handwritten letter to the TDA Primary School Campus Reception, or send it via WhatsApp to 74017451, 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.

Please click **here** to confirm consent for your child to participate.

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The deadline for the application, as well as payment of the participation fee, is **3 February 2023** and will be strictly enforced.

Classes for the programme will start on **8 February 2023** and end on **2 August 2023**.

The TDA Tech Series® DEMO WEEK

TDA STUDENTS: From **30 January 2023 to 3 February 2023**, students will undergo a "DEMO WEEK". During the "DEMO WEEK", students have the option to take part in a TDA Tech Series® programme of their choice at no cost. During this week, students will be given a chance to choose a programme that suits them best.

This DEMO WEEK will also be open to parents. We want our parents to see and appreciate all the TDA Tech Series® offerings. Please click here to view the DEMO WEEK flyer.

On the last day of the DEMO WEEK, the names of students interested in each programme will be recorded, and parents will be contacted with details on the programme, as well as the participation fee options available for the programme.

If students would like to join the TDA Tech Series® programme, parents must complete a digital consent form for their child to participate in the 2 Term long programme.

Please click **here** to confirm consent for your child to participate.

The deadline for the application, as well as payment of the participation fee, is **3 February 2023** and will be strictly enforced.

Classes for the programme will start on **8 February 2023** and end on **2 August 2023**.

When Does it Start and How Much Does it Cost?

TDA Robotics Dates and Time	8 February 2023 - 2 August 2023 14:00 to 15:30 Monday and Wednesday
Venue	The Dow Academy Primary School Campus
Cost	**ONE TIME PAYMENT OF P1,500 per student** (Payable before 3 February 2023) **OR**
	TWO TERMLY PAYMENTS OF P900 per student (Payable before 3 February 2023 for Term 1 and before Term 2 2023 starts) **OR**
	5 MONTHLY PAYMENTS OF P400 per student (Payable before 3 February for Month 1 And before the beginning of each month the programme runs)

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