

CODING & ROBOTICS CURRICULUM

The Sheen Academy Coding and Robotics curriculum is designed to introduce learners to foundational concepts in coding and robotics, emphasising hands-on learning and problem-solving skills. This curriculum aligns with the South African Department of Basic Education's initiative to integrate coding and robotics into the national curriculum.

CAPS ALIGNED



INTRO CLASS

Age 6+



JUNIOR CLASS

Age 9+



EXPLORER CLASS

Age 12+



The curriculum is structured into three main courses, each tailored to a specific age group and skill level. It incorporates key elements from the CAPS Coding and Robotics Curriculum, focusing on computational thinking, engineering design processes, and digital literacy.



INTRO
Age 6+

Focus

Basic structural designs, fundamental logic structures, and robot movement control.

Skills Developed

- ✓ Programming Concepts
- ✓ Robot Operation
- ✓ Basic Problem Solving Skills

JUNIOR
Age 9+

Focus

In-depth structural design with conditional logics and practical coding experiences

Skills Developed

- ✓ Block-Based Coding
- ✓ Problem-Solving
- ✓ Advanced Coding Experiences

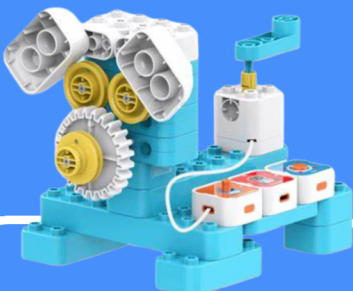
EXPLORER
Age 12+

Focus

Advanced structure design, AI program architecture, and automation through data processing.

Skills Developed

- ✓ Advanced Coding
- ✓ Industrial Design
- ✓ Project-Based Learning



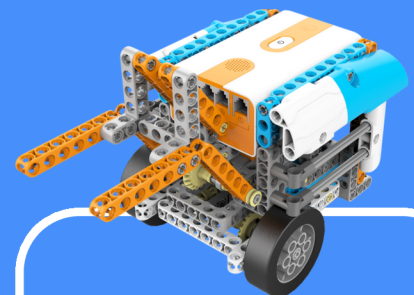
Innovative Curriculum

Our curriculum combines the latest in robotics technology with foundational STEM principles, ensuring a well-rounded education.



Hands-On Learning

Kids learn best by doing, and our interactive classes allow them to build, program, and test their own robots.



Expert Instructors

Our team of experienced educators and robotics enthusiasts are dedicated to fostering a love for technology and innovation in every student.



CURRICULUM STRUCTURE:

INTRO CLASS

In the foundation phase, children engage in a learning-based approach through fun, hands-on projects—including unplugged activities—that encourage exploration and discovery. These experiences develop problem-solving, foster creativity, and promote collaboration. Unplugged projects build foundational coding and robotics concepts playfully, reinforcing learning through inquiry, experimentation, and reflection.

SKILLS:

- **Programming Concepts:** Introduction to algorithms, loops, and basic error solving.
- **Design and Construction:** Hands-on experience with plug-and-play technologies.
- **Operation of Robots:** Applying elementary concepts, including, numbers, shapes, patterns, etc.
- **Digital Concepts:** Digital safety and navigation.

JUNIOR

Children learn through a structured, learning-based approach involving input, processing, and output activities, using sensors, controllers, and actuators to grasp sequential logic. This method integrates interactive and multimodal learning, reinforcing coding concepts through hands-on exploration, problem-solving, and real-world applications.

SKILLS:

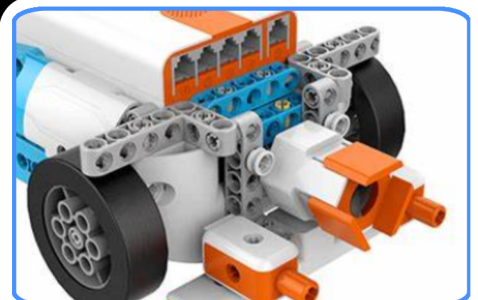
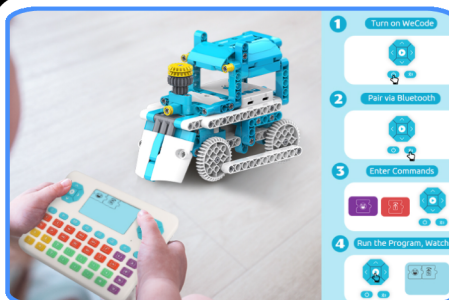
- **Block-Based Coding:** Using Scratch to develop foundational coding concepts.
- **Robotic Design:** Children learn to build and program robots to follow lines and control angles, using basic physics and math ideas.
- **Problem-Solving:** Applying physics and mathematics to real-world scenarios.

EXPLORER

Inquiry-based learning follows a student-centered approach where learners actively explore complex problems through self-directed inquiry, fostering a deeper understanding of coding and robotics. This learning approach encourages critical thinking, creativity, and problem-solving, equipping students with essential skills for advanced STEM challenges and real-world applications.

SKILLS:

- **Advanced Coding:** Utilising both block-based and contemporary programming languages.
- **Industrial Design Principles:** Replicating real-world scenarios.
- **Project-Based Learning:** Emphasis on problem-solving, critical thinking, and collaboration.



sheen
academy



IGNITE YOUR CHILD'S IMAGINATION WITH ROBOTICS!

TRANSFORMING YOUNG MINDS INTO INNOVATORS

WORKSHOPS



We also offer engaging once-off workshops for ages 9+, introducing new skills in AI, robotics, drones and electronics.

Contact us for more details.

CLASSES START FROM APRIL, 2025

Ready to ignite your child's imagination?
Enroll today at Sheen Academy.



Contact Us
+27 65 900 8570



Visit Our Website
www.sheen.co.za/academy



Our Location
**Unit C1, Century Square,
Heron Crescent, Century City**