BRAINOBOTS

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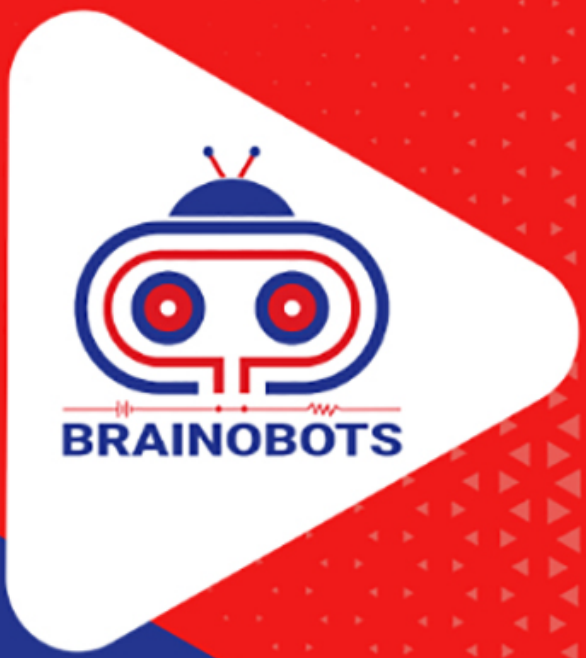
Robotics Programme

Explore the Excellence of STEM »



ABOUT
BRAINOBOTS

BRAINOBOTS is a team of STEM professionals that offers educational programs focused on equipping students to deal with the rapidly changing technology-driven environment.

The Advanced Robotics Training program is designed to bring out the collective intelligence of students by immersing them in the practice of learning with an interdisciplinary competence approach.

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IS NOW

STEM.ORG

ACCREDITED™

EDUCATIONAL EXPERIENCE

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WHY BRAINOBOTS

01

Unique and comprehensive Curriculum

A unique educational program designed by STEM research specialists and tested to ensure the effective learning.

02

InLine Activities

A well structured program aimed at emphasizing innovation, collective intelligence and problem-solving skills.

03

Integrated Learning Method

Integrated learn by doing method improves logical and analytical thinking ability to perform complex task.

04

Inspiring Instructors

The course contents delivered by the certified passionate instructors.

05

Friendly Syllabus

A kids friendly syllabus provides the opportunity to apply their academic learnings in real-time activities.

06

Global Platform

A Real time competitive platform where the students can showcase their skills and learnings in front of young innovators among the globe

07

Effective Assessment

Various assessment methods to test students understanding and the practical skills enables the students to improve their learning.

08

Multiplatform Environment

This program covers applications from diverse popular microcontrollers and uses the most demanding programming languages for training.

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OUR EXPERTISE

- STEM Education
- Robotics
- Aero Modelling
- Embedded Systems
- 3D Printing
- Internet of Things
- Artificial Intelligence

What Do We Deliver

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1

WORLD CLASS PRACTICE KIT

Good quality practice kits will be distributed to every student to enable an out-of-box learning approach.

2

EXPERT TRAINERS

A certified and experienced instructor assigned to each batch to manage classrooms.

3

TECH SUPPORT

24X7 technical support will be provided to each Student through the batch instructors.

4

HOME PRACTICE

Inline home work activities will be assigned to students to practice their learnings after their regular sessions.

5

HANDBOOK

Detailed electronic copies of the course material will be provided to students to assist them in finding the full details of the lesson.

6

CERTIFICATION

A Course Certificate is an official credential that confirms you have successfully completed the course from Brainobots.

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COURSE DESCRIPTION

The curriculum of advanced training courses in robotics carefully designed to highlight innovative ideas among students as well as developing enhanced skills in various fields.

The main objective of this series of courses is to highlight the collective intelligence among the students of the school where their learning of isolated topics in regular academics.

The technological fields covered by this course are known as the most essential competencies required during this decade.

Every level of these advanced robotics classes is deeply integrated and hands-on activities based on interlaced concepts make learning more interesting.

COURSE OUTCOME

PASSION IN SCIENCE

Students will be fascinated by science and can think of how to use science in innovative ways.

STEM SKILLS

Provides an opportunity to explore STEM via robotics, programming and microcontroller activities.

EFFECTIVE USE OF MATERIALS

Understand how to use components efficiently and how to make simple programs and use them to detect and react to objects in the real world.

PRACTICAL SKILLS

Assembling the robot by themselves provides the practical knowledge of how electricity works and how electronic components can be manipulated using simple electronic circuits.

HIGH END TECHNOLOGIES

The Advanced Robotics Training Suite comprises all the most demanding skill sets worldwide and meets the global standard.

ENGINEERING CONCEPTS

Understand simple machinery, basic principles of electronics and electricity, and basic engineering concepts

COLLECTIVE INTELLIGENCE

Being an expert in one area is not enough to fulfill the desire, the present decade requires multidisciplinary skills. The cutting-edge robotics course designed effectively to deliver collective intelligence to students.

PERSONAL SKILLS

Builds the approach of logical thinking, problem solving skills, analytical thinking and logic by finding the solution of real world problems by technology.

Course DETAILS

ADVANCED ROBOTICS PROGRAMME

Student Age Category	10- 16 years
Number of Levels	10
Level Duration	3 months
Sessions per level	24
Sessions per Week	2
Session Duration	1 hour
Language	English

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COURSE PLAN

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CAPSTONE PROJECT

LEVEL 9-10

Innovator

LEVEL 6-8

Creator

Explorer

LEVEL 4-5

Learner

LEVEL 1-3

Level Wise Description

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01

FUNDAMENTALS OF ROBOTICS

Students are introduced to the basic electronic concepts and components that play an important role in modern technology. Then students are introduced with the configuration of the microcontroller pin actuator control using the single block program.

02

ROBOT INTERFACES

In this level, students are introduced with integrated circuits to understand how logic operations carried out inside the microcontroller and create different projects based on robot interfaces and its applications.

03

ROBOT EMBEDDED SYSTEM

The entire structure of robotic systems is introduced in this level, students will work with the different actuators, indicators and sensor interfaces.

04

PROGRAMMING TECHNIQUES

The official text-based programming language and its IDE have been introduced at this level as well as complicated input and output devices.

05

WIRELESS TECHNOLOGY

Wireless robot technology has been introduced at this level such as the Bluetooth-driven robot, gesture robots and IR wireless robots.

06

INTERNET OF THINGS

The scope of wireless communication is limited, which means that it allows communication only for a short range. The IOT concept has been introduced here to store data in the cloud and control devices from anywhere in the world.

07

PYTHON PROGRAMMING

Python is a powerful, expressive and multi-platform programming language, easy to learn and pleasant to use in real time. Python and its package will be used for AI and machine learning applications.

08

ARTIFICIAL INTELLIGENCE

AI and machine learning are becoming an essential skill in today's world because the machines are started learning from humans. At this level the important machine learning and AI concepts are incorporated robotic technology.

09

3D MODELLING & PRINTING

3D modeling and printing transform students' imagination into real-time output. Starting now, students are aware of their specific material needs for their projects, this platform provides good support to implement their projects in real time.

10

AEROMODELLING & DRONE TECHNOLOGY

By taking part in these level students can learn various drone parts such as propellers, BLDC motors, controller remotes and batteries. Students will learn how to design and control drones and small flying vehicles using one-of-a-kind controllers and programming apps.

Course DETAILS

JUNIOR ROBOTICS PROGRAMME

Student Age Category	6-9 years
Number of Levels	5
Level Duration	3 months
Sessions per level	24
Sessions per Week	2
Session Duration	1 hour
Language	English

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Level Wise Description

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01

SIMPLE MACHINE

Shapes, Pattern & Part Identification, Gears & Transmission & Wheel & Axle Fixed & Movable Pulley Inclined Planes & Wedges Weight & Balance Rack & Pinion

02

COMPOUND MACHINE

Motion & Movements, Motion & Balance
Action & Reaction, Force & Friction, Motion & Force
Inertia & Balance, Motion & Fulcrum

03

MOTORIZED MACHINE

Electric Motor & It's Working Torque vs Power & RPM
Motor with Gears, Pully & Bell (sweeper, pterosaur, oil extractor) Wheel Drive- Forward & Backward (tank, electric car, crawler excavator) Gear Drive vs Belt Drive Motor Propeller (electric helicopter)

04

SNAP CIRCUIT

Electronic Circuit & Component Testing
Voltage, Current & Resistor Control Circuits & It's Applications Intergrated Circuits & Logic Gates
Input Interface (switch, laser) Ouput Interface (led, buzzer) Sensor Interface (microphone, light)

05

ROBOT PROGRAMMING

Graphical (or) Visual Programming Sensor Interface (light sensor, IR sensor) Machine Automation (colour sorting machine, automatic gate)
Logical Programming Sensor Guided Robot Car Animal & Pet Robot

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