

#### THE BISHOP'S CO-ED SCHOOL, UNDRI CLASSES V TO IX

#### "Robotics and Automation Program"



# Hands-on experience is the best way to learn about all the interdisciplinary aspects of Robotics - Rodney Brooks.

The training of Robotics and Automation for the students of the Bishop's Co-Ed School, Undri is being conducted by IndiaFIRST Robotics Innovation and Research LLP, Pune.

The Robotics and Automation Program has been introduced to students at Bishop's Co-Ed School, Undri, spanning from Class V to Class IX. In total, 23 students have enrolled in this course.

The course is aimed at teaching students the Basics of Electronics, Arduino Micro-Controller, DC Motor programming and construction of various robotics models using various sensors like Bluetooth Sensor, Ultra-Sonic Sensors, IR Sensor, Temperature and Soil Moisture Measurement Sensor.

This course is designed to benefit the students in the following ways:

- Implement Physics, Algebra and Geometry concepts while designing Robot
- Use Engineering Concepts to design, sketch, assemble and operate the prototype robot
- Improves logical and analytical thinking ability to perform complex task
- Project based approach helps to develop personality and teaches importance of teamwork
- Technological learning through world-class software

Participating students will engage in the International Robotics Competition, an event organized by IndiaFIRST Robotics Innovation and Research LLP.

As part of their participation, students will be responsible for the design and production of robots. These robots will undertake diverse tasks during the competition, aiming to meet specific performance criteria to qualify for various awards.

#### Topics Covered up to 7<sup>th</sup> October 2022 are as follows:

- 1. An Overview of Robotics: Introduction, Legislation, and Practical Implementations
- 2. The Design Process for Creating Models
- 3. Getting Acquainted with Tinkercad Software
- 4. Crafting 3D Models
  - a. Designing 3D Gear Models
  - b. Creating 3D Models of Household Appliances
  - c. Fashioning 3D Models of Nuts, Bolts, and Spanners
  - d. Constructing a 3D Model of the Otto Robot
- 5. Developing a Robot Design through Electronic Component Measurements and Corresponding Designs.

### **Students in action**





## Training session in progress





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