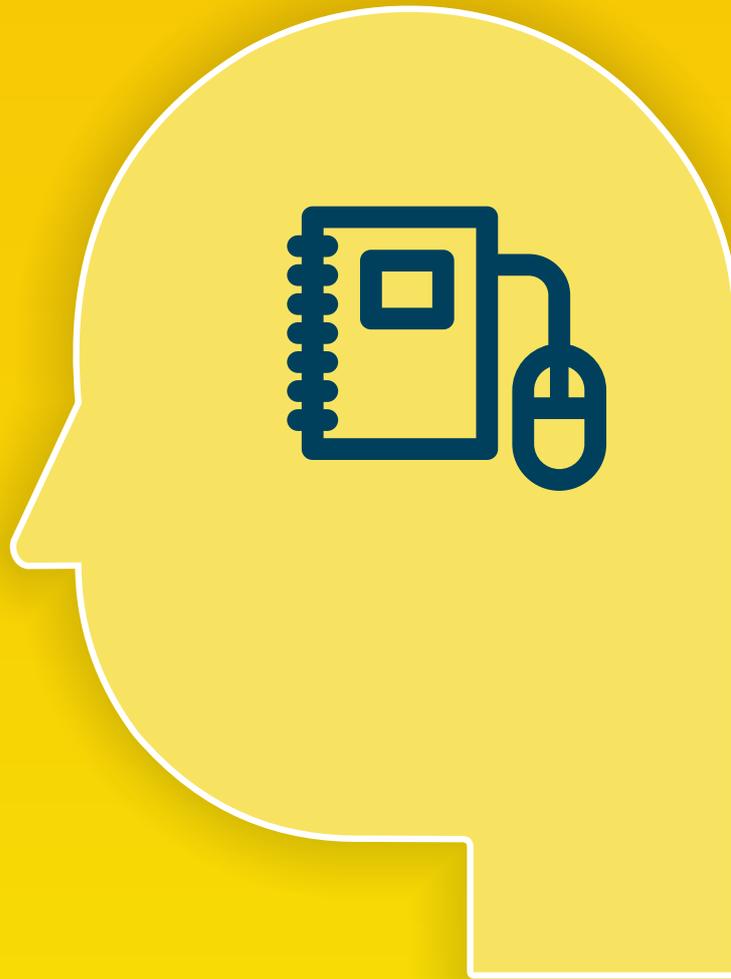


Cloud based Digital Blended Learning

Powered by

Virtual Innovation Lab



**STEM Robotics Design And Prototyping
Tinkering and Innovation**

Eligibility: All Branches BTech (I-IV) Years.

Why EdgeFX Innovation and Tinkering Labs?

EdgeFX is embarking on the 4th Industrial revolution to help students, academia, government and policy makers alike to ride the wave. Our solutions provide platforms for teachers and students to improve teaching, learning and research competence and develop 21st century skills like problem solving, innovation, collaboration, leadership and practical skills.

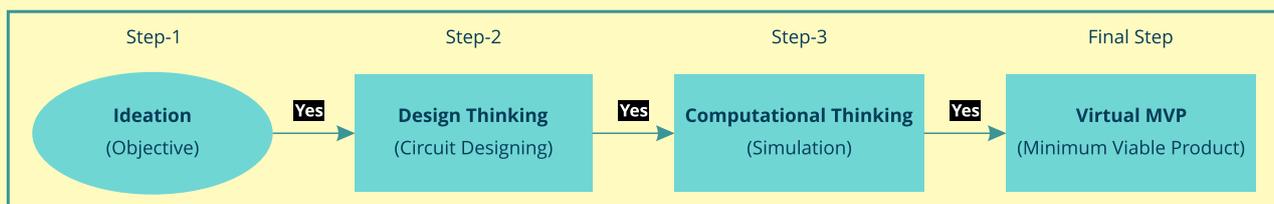
About

EdgeFX STEM Lab are based on electronic building blocks, designed for easy use and to feed the curiosity of young minds. Each Block has a defined function. Blocks are in different colors and have Block IDs and polarities on them so that you can easily identify and properly mount them on the base. Blocks are grouped into four different categories like Power, Input, Output and Accessories which are color-coded by function. Build 10+ Projects With Reusable Modules Including Basic Components, Sensors, Inputs, Outputs, Wires, Connectors And Breadboard With Detailed Project Manual And Audio-visuals. EdgeFX STEM Lab come with complete documentation including Assembly Procedure and Trouble shooting and extensive project documentation with physical diagrams, project image and circuit diagram with explanation. The projects include real time examples with fun-filled activities and experiments, to kindle your curiosity. These Labs are also mapped to the curriculum.

Objective

1. To help students learn the fundamentals of STEM Robotics and innovate thereafter.
2. Ideation, Design Thinking, Computational Thinking, Physical Computing, Minimum Viable Product including Circuit Design, Circuit Building, Simulation.

Idea to Prototyping Flow Chart



STEM Robotics

Topic	Course Outline
1	To build a bot which moves in the Left direction on pressing the Push Button Switch.
2	To build a bot which moves in the Left and Right directions on pressing the respective Push Button Switches.
3	To build a bot which moves in the Left, Right and Forward directions on pressing the respective Push Button Switches.
4	To build a bot which moves in the Left, Right, Forward and Reverse directions on pressing the respective Push Button Switches.
5	To build a bot which moves in the Left, Right, Forward and Reverse directions on activating the respective Slide Switches, by moving the slider to your right.
6	To build a bot which moves in the Left, Right, Forward and Reverse directions on activating the respective Reed Switches with a magnet.
7	To build a bot which moves in the Left direction using human touch as input.
8	To build a bot which moves in the Left and Right directions on holding the respective Touch points
9	To build a bot which moves in the Left, Right and Forward directions on holding the respective Touch Points
10	To build a bot which moves in the Left, Right, Forward and Reverse directions on holding the respective Touch Points.
11	To build a bot which moves in the Left, Right, Forward and Reverse directions on activating four different inputs Reed Switch, Touch Point, Push Button Switch and Slide Switch respectively.

Complimentary Courses Industry 4.0 and Innovation life cycle



Virtual Lab Video Link

<https://www.youtube.com/watch?v=mNVLJKsn1hI&t=28s>



Real-time Circuit Design and Simulation



Blending Learning with Instructed led Sessions



Assignment & Project Included



Realtime working video presentation of exact hardware, besides simulation.