

Master Curriculum

Advanced IT Curriculum
Powered by Rotech



LEVEL 0

Level 0 is the foundational stage of our IT curriculum designed for young learners. At this level, students are introduced to computers, smart machines, and basic digital tools in a fun and interactive way. The focus is on building curiosity, logical thinking, problem-solving, and creativity through games, visual programming, and hands-on activities. This stage lays the groundwork for higher-level computing, robotics, and AI learning in the future.

GRADE 1

- Understanding smart machines and computers as super smart machines
- Identifying uses and parts of a computer
- Developing keyboard and mouse skills through educational games
- Practising logic and problem-solving with interactive activities
- Exploring Paint software for drawing and colouring
- Creating LEGO block structures using Witty Store
- Introduction to visual programming with Jr. Scratch

GRADE 2

- Understanding computers: Types, functions, and how they work
- Identifying computer parts: Input, output devices, and the inside of the CPU
- Developing keyboard, mouse, and pattern skills with Gcompris
- Exploring storage devices: Hard disk, pen drive, memory card and SSD
- Creating LEGO block structures using Witty Store
- Practising digital drawing and colouring with Paint
- Introduction to visual programming with Jr. Scratch
- Learning about robots and their functions

GRADE 3

- Understanding software: Operating systems and examples of software
- Introduction to AI: Definition and real-life applications
- Exploring robot programming: How robots work, E-brain, and Microbit
- Microbit programming: Visual coding, LED blinking and sensor integration
- Google tools: Google Workspace and apps like Google Slides
- Scratch programming: Basic game development
- 3D design: Creating shapes using Tinkercad

GRADE 4

- Data Management: File and folder creation, advanced tools
- Microbit Programming: Visual coding for hardware control, sensors, motor interfacing
- Google Docs & Sheets: Creating content on Microbit
- AI Chatbots: Definition, examples and working mechanism
- Advanced Scratch Programming: Expanding coding skills
- Types of Robots: Various E-brains and their functions
- Email Setup: Steps to create and manage an email account

LEVEL 1 :- (Grade 5&6)

The primary goal of the Level 1 curriculum is to introduce fundamental of AI tute concepts, focusing on main pillars creativity, technology, financial literacy, and business. This curriculum is designed for students in grades 5 and 6.

GRADE 5

- Introduction to poster creation - AI tools for poster design
- Creation of 3 amazing posters using canva software
- Google Workspace: Google drive
- Introduction to robotics
- Introduction to Arduino Blockly programming
- Introduction to sensor: IR, LDR and ultrasonic sensor
- Creation of 2 visual effects using canva
- Introduction to 3d modeling
- Creation of 2 amazing 3d models using Tinkercad software
- Development of product: introduction to design thinking process
- Sales of developed products through the AI tute shop.

GRADE 6

- Basics of design and development of 3d model of product
- Introduction to fusion 360 software: 3D modeling
- Creation of amazing 2 sellable products
- Create visual effects (video) using canva based on the 3d product - AI tools for video editing
- Introduction to HTML&CSS
- Introduction to Artificial intelligence
- Introduction to python language
- Google Workspace - Google Forms
- Introduction to data science
- Basics of business-What is business, Branding, pricing, and sales?
- Learn about email through business needs

LEVEL 2 :- Grade 7

Upon successfully completing Level 1, students can advance to Level 2 by choosing one pillar from creativity, technology, or business. The choice of the pillar is based on both the student's preference and an analytical report from the AI tutor e-learning platform. Each pillar covers the following topics:

Grade 7 – Creativity

- Professional video editing basics
- Introduction to Filmora Video Editing Software
- AI tools for helping creative videos
- Creation of 3 amazing visual effects
- How to create professional posters
- Creation of amazing 3 professional posters
- 3d modeling next level
- Creation of professional product with movable parts
- UI/UX design using figma software
- Creation 2 amazing app/web ui/ux model
- The creativity wing will have the opportunity to assist the technical team in promoting their products through the creation of posters and videos.
- The creative team will receive a commission from the technical team for their assistance.
- Google Workspace - Google chat

Grade 7 – Technology

- Introduction to IoT
- Arduino based programming
- Understanding of more sensors
- Arduino interfacing with sensors
- Product development using Arduino
- Sales of development products
- Design thinking process
- Deep understanding of python
- How to develop AI related projects using python
- AI libraries in Python
- Basic usage of libraries
- App/web development using python
- How to develop App/Web using AI tools
- Google Workspace Calendar

Grade 7 – Business

- Starting a Business Adventure with MS Word, PowerPoint, and Google Forms
- Building Your Brand: From Ideas to Price Tags with Canva and Excel
- Smart Business: Managing with Google Workspace
- Marketing Magic: Building Your Website with WordPress
- Boosting Your Business: Digital Marketing with (Meta tools)
- Introducing Sales: Creating a Pitch with Google Slides
- Money Matters: Crafting Cool Dashboards with Excel & ChatGPT

LEVEL 3 :- Grade 8 & 9

The primary objective of Level 3 is to offer students in-depth knowledge and the opportunity to specialize in a specific field. In Levels 1 and 2, students have been honing their skills and building a strong foundation in their chosen area. Level 3 focuses on advancing their expertise, allowing them to become proficient in one particular discipline, and preparing them for more complex challenges and opportunities in the future. In level 3 students will learn any one of the following given areas.

- AI development using python language
- Robotics using arduino & esp32 board
- App or web development using AI tool
- Product development - 3d modeling
- Graphic design with AI tools
- Video editing with AI tools
- Advanced Excel
- Power BI
- Digital Marketing