GYANOHOLIC

Coding Bachelor's Program

The Coding Bachelor's Program focuses completely on building a strong coding foundation among students. In this program, we cover 12 different platforms to cumulatively establish a strong logic development ability, coding skills and knowledge of full stack development among the students.

The entire curriculum is very strategically designed to ensure seamless learning and best outcomes. All the courses are very extensive and detailed so that it helps develop a very strong base for the students. Any student who puts dedicated and honest efforts towards the Coding Bachelor's Program is sure to achieve complete mastery in coding.

Courses in Coding Bachelor's Program

01	Introduction to Coding using Sprite Lab
02	Logic Development & Game Development using Scratch
03	Introduction to App Development using App Lab
04	Advanced App Development using Thunkable
05	2D Game Development using Game Lab
06	HTML
07	CSS
08	JavaScript
09	Java
10	Python Basics
11	Python Advanced
12	Machine Learning on Teachable Machine

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Introduction to Coding using Sprite Lab

Sprite Lab is an excellent platform for absolute beginners who are stepping their first foot into Coding. It is an introductory block-based programming platform that trains students on how to write instructions for the computer to achieve simple tasks.

Difficulty Level ★ ☆ ☆ ☆ ☆

Module 1 – Understanding the Sprite Lab platform

Module 2 – Writing basic instructions

Module 3 – Understanding Events to trigger the code

Module 4 – Movements

Module 5 – Behaviors

Module 6 – Creating projects using the learnt concepts

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Logic Development & Game Development using Scratch

Scratch is one of the most advanced block-based programming platforms offering functionalities at par to what C++ and Java offers. We use Scratch programming to build an excellent foundation in our students before moving on to the more complicated coding languages. We do not use Scratch to create simple stories and animation. Rather, we create advanced games, usable applications, logical codes that are generally written in Java and Python, etc. Our course on Scratch develops the algorithmic thinking and logical reasoning in students. This is not at all a basic course and involves high level coding.

Difficulty Level ★ ★ ★ ☆ ☆

Module 1 – Understanding the Scratch Interface

Module 2 – Events, Movements & Multimedia

Module 3 – Coordinate System in Scratch & Pen Tool

Module 4 – Introduction to Variables

Module 5 – Mathematical and other Operators

Module 6 – Conditional Statements

Module 7 – Game Development: Phase 1
Module 8 – Logical Operators
Module 9 – Codes involving algorithmic thinking
Module 10 – Game Development: Phase 2
Module 11 – Gravity based games
Module 12 – List/Array/Database
Module 13 – Functions (My Block)
Module 14 – Game Development: Phase 3

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Introduction to App Development using App Lab

App Development in an excellent exercise that involves not just coding but also designing. Creating apps on App Lab is very easy and hence this platform acts an excellent tool to get started with App Development. In this course, students learn to make exciting apps that are not just interesting but also very useful in day-to-day life.

Difficulty Level ★ ☆ ☆ ☆ ☆

Module 1 – Understanding the App Lab platform
Module 2 – Getting comfortable with coding in Java script
Module 3 – Creating good UI/UX
Module 4 – Creating multi-screen apps
Module 5 – Add multimedia to the apps
Module 6 – Creating good looking information apps
Module 7 – Introduction to Variables
Module 8 – Using different input methods in Apps
Module 9 – Interactive Apps taking responses from the user in real time
Module 10 – Conditional Operators
Module 11 – Logical Operators
Module 12 – Timed Loop
Module 13 – Integrating other websites to our Apps
Module 14 – Cloud based Data Storage and Retrieval

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Advanced App Development using Thunkable

This course is an excellent extension to the App Development course using App Lab where students learn not just about more functionalities but also how to host their apps on the Android App Store. Apps created on Thunkable can be installed on Android and iOS devices just like the professional apps. In this course, also learn an additional tool called Canva to create excellent UI for the apps.

Difficulty Level ★★☆☆☆

Module 1 – Understanding the Thunkable platform
Module 2 – Getting comfortable with coding on Thunkable
Module 3 – Creating excellent UI/UX using Canva
Module 4 – Speech and Translator Apps
Module 5 – Navigation Tools
Module 6 – Lists
Module 7 – App, Stored and Cloud Variable
Module 8 – Calculation oriented Apps
Module 9 – Introduction to Web Viewer, Redirect & Share
Module 10 – PDF Reader Apps
Module 11 – Sensors
Module 12 – Data Storage and Retrieval
Module 13 – API integration
Module 14 – Complicated Apps

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2D Game Development using Game Lab

This course extends the training on Game Development further from Scratch. Game Lab is an exclusive Game Development platform supporting much advanced and game-oriented features. Moreover, the games created on Game Lab can be played on smartphones as well. In Game Lab, students will be programming both using blocks and script-based codes written in Java Script. This is for the first time students will be coding in script.

Difficulty Level ★★★☆☆

Module 1 – Understanding the Game Lab Interface
Module 2 – Creating a good UI/UX

Module 3 – Drawing basic shapes and lines
Module 4 – Creating Sprites on Game Lab
Module 5 – Making the Sprites move
Module 6 – Adding the effect of Gravity on the Sprites
Module 7 – Collisions and Bouncing effect on the Sprites
Module 8 – Functions
Module 9 – Creating Colliders
Module 10 – Camera feature
Module 11 – Timer
Module 12 – Creating 20+ advanced games

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HTML

In this course, students will learn how to create the structure of a website using HTML. A good website is generally developed using 3 languages – HTML, CSS and JavaScript, out of which, HTML is responsible for creating the complete structure. HTML is fairly common among students since it is taught in schools. However, the schools are still teaching it superficially and using outdated methods. We dig deep into this and train the students in a way that they can take up and make any project that comes their way.

Difficulty Level ★★☆☆☆

Module 1 – Introduction to Internet and Web
Module 2 – Understanding HTTP, Client and Server
Module 3 – Domain Name and Hosting
Module 4 – Roles of HTML, CSS & JavaScript
Module 5 – Introduction to VS Code
Module 6 – HTML skeleton and basic tags
Module 7 – Adding images and videos to the web page
Module 8 – Lists
Module 9 – Anchor Tags
Module 10 – Block and Inline Elements
Module 11 – Entity Codes
Module 12 – Semantic Elements
Module 13 – Tables
Module 14 – Forms and Input Methods
Module 15 – Fieldset & Legends
Module 16 – Validations
Module 17 – Creating a basic website

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CSS

This course on CSS trains the students on styling the web pages created using HTML. In this course, students will be thoroughly trained on different styling techniques using CSS to make the website look attractive and user friendly.

Difficulty Level ★★★☆☆

Module 1 – Methods of writing CSS
Module 2 – Selectors
Module 3 – Div & Span
Module 4 – CSS Properties
Module 5 – Inheritance
Module 6 – Developer's tools
Module 7 – Last rule and Specificity
Module 8 – Units
Module 9 – Calc function
Module 10 – Min & Max height, Overflow
Module 11 – Internal & Google Fonts
Module 12 – Box Model
Module 13 – Display properties
Module 14 – Background properties
Module 15 – Gradient
Module 16 – Float
Module 17 – Position
Module 18 – Making responsive websites
Module 19 – Z index
Module 20 – Pseudo Class & Elements
Module 21 – Transform
Module 22 – Transition
Module 23 – Animation
Module 24 – CSS Variables
Module 25 – Text & Box Shadow
Module 26 – Flex Box
Module 27 – Order Property
Module 28 – Creating attractive websites

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JavaScript

While HTML and CSS are languages that give structure and style to web pages, JavaScript gives web pages interactive elements that engage a user. The hovering effect that you see on a website, pop ups, menu bar expanding and collapsing, etc. are some of the effects that are brought in by JavaScript. While HTML and CSS are low level programming languages, JavaScript is a high-level programming language.

Difficulty Level ★★★★☆

Module 1 – JS Statement & Syntax
Module 2 – JS Data Types
Module 3 – JS Functions
Module 4 – JS Get & Set methods
Module 5 – JS Events
Module 6 – JS Strings
Module 7 – JS Decision making
Module 8 – JS Arrays
Module 9 – JS Object Literals
Module 10 – DOM
Module 11 – AJAX & API
Module 12 – Advanced Website using JS

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Java

Java is one of the most widely used programming languages. Java is used as the server-side language for most back-end development projects, including those involving big data and Android development. Java is also commonly used for desktop computing, other mobile computing, games, and numerical computing. It is still considered the best programming language to establish your base in coding fundamentals. Our Java curriculum is at par to the curriculum used for Engineering students. In fact, we take a step ahead and add more elements to it for enhanced learning.

Difficulty Level ★★★★☆

Module 1 – Introduction to Java and its setup
Module 2 – Java internals and working
Module 3 – Modifiers

Module 4 – Variables
Module 5 – Data Types
Module 6 – Operators
Module 7 – Control Statements
Module 8 – Arrays
Module 9 – Strings
Module 10 – Class & Object
Module 11 – Constructor
Module 12 – OOPS
Module 13 – Interface
Module 14 – Package
Module 15 – Access Modifiers
Module 16 – Exceptions
Module 17 – Important Keywords
Module 18 – Debugging

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Python Basics

Python is a high-level programming language that is extensively used across the globe today. It has gained a lot of popularity because it is easy to learn and has extensive applications across the globe. In the Python Basics course, we will cover all the basic principles that are involved in python programming to master the art of writing python codes. This course will challenge the students on their logic implementation abilities and help them come out as better coders.

Difficulty Level ★★★☆☆

Module 1 – Introduction to Python
Module 2 – Introduction to Google Colaboratory
Module 3 – Printing functions
Module 4 – Joining strings
Module 5 – String manipulation
Module 6 – String slicing techniques
Module 7 – Conditional Statements
Module 8 – Time module
Module 9 – Codes involving Algorithmic thinking
Module 10 – Loops
Module 11 – Patterns
Module 12 – Range function
Module 13 – Break, Continue & Pass statements
Module 14 – Data Collection Method: List

Module 15 – Data Collection Method: Tuple
Module 16 – Data Collection Method: Dictionary
Module 17 – Data Collection Method: Sets
Module 18 – Functions
Module 19 – Datetime module

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Python Advanced

The main reason why Python is famous is because of the endless libraries it has for a wide range of applications. The professional use of Python mainly involves using these libraries for the desired tasks. For example, there are dedicated libraries for data analytics and plotting graphs/charts, medical research, science applications, etc. In the advanced course, we look at some of the important libraries and train our students in a way that no matter what library they may need to use in the future, they can easily grasp them and get going.

Difficulty Level ★★★★☆

Module 1 – Files
Module 2 – Modules
Module 3 – Try and Except
Module 4 – SMTP library
Module 5 – Web Scraping
Module 6 – Class and Objects
Module 7 – Numpy library
Module 8 – Matplot library

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Machine Learning on Teachable Machine

Teachable Machine is a tool using which we can learn how to train a computer to recognize images, sounds and poses. We can also integrate various programming language with it to define actions based on the processed data. This course kick starts the journey of Machine Learning for the students.

Difficulty Level ★★☆☆☆

Module 1 – Understanding the Teachable Machine interface

Module 2 – Gathering the data set for the computer to learn

Module 3 – Image processing

Module 4 – Sound processing

Module 5 – Poses processing

Module 6 – Making interesting projects