AGI Training Program Curriculum

Enroll Start Date : 01-05-2026 Class Start Date: 11th May 2026
Format: 100% Offline | Basic Computer Knowledge + Scratch Coding + Projects
Levels: Beginner → Intermediate → Advanced → Expert

Target: Classes 6th -8th

Duration: 6 Months (24 Weeks)

Frequency: 90 min/Session

Standard: CSTA, ISTE, UNESCO AI

Program Goal :
Students progress from basic computer users to AI project developers building Scratch games, Python apps, trained ML models, and a final live project integrating coding, AI, robotics, and ethics.

Certificate Levels :

- Beginner AI Explorer (Month 2)
- Junior Python Developer (Month 4)
- Young AI Innovator (Month 6)

Month 1: Computer Basics + Digital Skills (Weeks 1–4)

Focus: Basic Computer -Knowledge -Scratch Coding

Week 1 – Computer Fundamentals

Day	Topic	Activity
1	Computer parts (CPU, monitor, keyboard, mouse)	Label a diagram, practice mouse click/double-click
2	Keyboard layout, typing posture	Typing race (10 min), type a short paragraph
3	File management: create folders, rename, move, delete	Create folder tree: Documents/School/Projects
4	Using a web browser, search engines	Search "how to stay safe online" – list 5 tips
5	Review & Quiz	Kahoot/Quizizz on computer basics

Week 2 – Internet Safety & Digital Citizenship

Day	Topic	Activity
1	Email basics: compose, send, attach files	Send a test email to teacher with a subject line
2	Strong passwords, two-factor authentication	Create a strong password (game: "Crack the Password")
3	Digital footprint, cyberbullying	Watch video, write 3 personal rules
4	Canva introduction – posters	Design "My Digital Safety Rules" poster
5	Present posters	Gallery walk + peer feedback

Week 3 – Introduction to Coding & Scratch

Day	Topic	Activity
1	What is coding? Algorithms (flowchart for brushing teeth)	Draw a flowchart on paper
2	Scratch interface: sprites, backdrops, blocks	Make a sprite move with arrow keys
3	Motion, looks, sound blocks	Animate a sprite saying "Hello!" with a sound
4	Events (when flag clicked, when key pressed)	Create a simple story with two sprites
5	Mini Project: Dancing Sprite (choreograph 10-second dance)	Share with class

Week 4 – Scratch: Loops & Conditionals

Day	Topic	Activity
1	repeat and forever loops	Make a sprite spin forever
2	if-then conditionals	Traffic light simulator (red→green→yellow)
3	if-else + sensing (touching color / touching mouse)	Maze game – sprite can't touch walls
4	Variables in Scratch (score, timer)	Add a score counter to a catching game
5	Mini Project: Virtual Pet (feed, play, sleep)	Present to class and explain code

Month 2: Python Fundamentals (Weeks 5–8)

Focus: Python Programming (beginner)

Week 5 – First Python Programs

Day	Topic	Activity
1	What is Python? Install Thonny or use Replit	Print "Hello, World!"
2	print() with multiple lines, escape sequences \n	Print a diamond shape using print()
3	input() function	Ask user's name and greet them
4	Variables: numbers, strings	Store age, print "You are X years old"
5	Mini Project: Mad Libs story generator (3 inputs)	Play with a partner

Week 6 – Data Types & Math

Day	Topic	Activity
1	Integers, floats, strings, type()	Identify types of different values
2	Type conversion (int(), str(), float())	Convert string input to a number for math
3	Basic math operators (+, -, *, /, //, %)	Calculate area of a rectangle
4	BMI Calculator (formula weight/height²)	Print health category
5	Project: Shopping cart total (3 items + tax)	Add discount feature

Week 7 – Conditionals

Day	Topic	Activity
1	Comparison operators (==, !=, >, <, >=, <=)	True/False quiz with print()
2	if statement	Check if a number is positive
3	if-else	Even or odd checker
4	elif (multiple conditions)	Letter grade (A, B, C, D, F) based on score
5	Project: Number Guessing Game (random + hints)	Add attempt counter and replay

Week 8 – Loops

Day	Topic	Activity
1	for loop with range()	Print numbers 1 to 10
2	while loop (infinite loops, break)	Countdown from 10 to 1
3	Combining loops and conditionals	Print only even numbers up to 20
4	Nested loops	Print a multiplication table (1–5)
5	Project: Quiz app with 5 questions, score, replay using while	Add high score tracker (file-based if time)

Month 3: Python Intermediate (Weeks 9–12)

Focus: Python Programming (intermediate)

Week 9 – Lists

Day	Topic	Activity
1	Creating lists, indexing (0-based)	Access first, last, and middle items
2	List methods: append(), remove(), pop()	Build a grocery list interactively
3	Slicing lists [start:end]	Extract first three items
4	Looping through lists (for item in list)	Sum all numbers in a list
5	Project: To-Do List Manager (add, view, delete, mark done)	Optional: save/load from file

Week 10 – Dictionaries

Day	Topic	Activity
1	What is a dictionary? key-value pairs	Create a student record: {"name": "Ana", "grade": 85}
2	Adding/updating keys, deleting	Update a phonebook
3	Looping through .items(), .keys(), .values()	Print all keys and values
4	Project: Phonebook app (search by name, add, delete, list all)	Use while loop for menu
5	Project: Word counter (count letters in a sentence using dict)	Find most frequent letter

Week 11 – Functions

Day	Topic	Activity
1	Defining functions with def	Write a function that says "Hello"
2	Parameters and arguments	Greet user by name (parameter)
3	Return values	Function to add two numbers and return result
4	Scope (local vs global variables)	Experiment with variables inside/outside function
5	Project: Password Generator (random letters, numbers, symbols)	Allow user to choose length – wrap in function

Week 12 – String Handling & File I/O

Day	Topic	Activity
1	String methods: .upper(), .lower(), .strip()	Clean user input (remove spaces)
2	.split(), .join()	Split a sentence into words, then join with hyphen
3	Reading from a file (open(), read(), readlines())	Read a text file and count lines
4	Writing to a file (write(), append)	Save attendance data to CSV
5	Project: Attendance System (mark present/absent, calculate %, save to file)	Display absent list from file

Month 4: Introduction to AI & ML (Weeks 13–16)

Focus: AI & Machine Learning Basics (no-code/low-code)

Week 13 – What is AI?

Day	Topic	Activity
1	Definition of AI, narrow vs general AI	Watch 5-min video "What is AI?"
2	AI in daily life (Netflix, Siri, self-driving cars, TikTok)	List 10 AI applications students use
3	ML vs traditional programming	Activity: "AI or Not?" – classify 10 problems
4	How ML works: data → features → model → prediction	Draw a diagram on whiteboard
5	Ethics discussion: Can AI be biased?	Case study: biased hiring tool (Amazon) – group debate

Week 14 – Teachable Machine: Image Classification

Day	Topic	Activity
1	Introduction to Teachable Machine	Explore interface, see pre-trained examples
2	Train a model: cat vs dog (using webcam)	Take 30+ photos per class (group work)
3	Test the model, improve by adding more data	Retrain until >85% accuracy
4	Export model to Google Colab	Run the exported model in Python
5	Mini Project: Classify fruits (apple, banana, orange)	Achieve >80% accuracy, present results

Week 15 – Pose & Sound Classification

Day	Topic	Activity
1	Pose classification (Teachable Machine)	Train "wave" vs "clap" vs "stand"
2	Export pose model and test in browser	Create a simple game: move left/right with pose
3	Sound classification (clap, snap, silence)	Train a model to detect "yes" and "no"
4	Combine image + sound? (discuss multi-modal AI)	Brainstorm ideas: e.g., smart home
5	Project: Emotion Detector (happy/sad/neutral face)	Test with classmates (with permission)

Week 16 – AI Project Week (Image/Pose/Sound)

Day	Topic	Activity
1	Choose a problem (recycle vs trash, pet breed, hand signs)	Gather/take photos in pairs
2	Train model, test, iterate (add more data)	Work in pairs – teacher circulates
3	Create a simple UI using Teachable Machine export	Add instructions and styling
4	Prepare presentation (problem, data, accuracy, limitations)	Slides + live demo
5	AI Model Showcase – present to class	Peer feedback + rubric grading

Month 5: Advanced AI Development (Weeks 17–20)

Focus: Advanced AI Development (Python + APIs + ethics)

Week 17 – AI Ethics & Safety (Deep Dive)

Day	Topic	Activity
1	Bias, fairness, explainability	Activity: Audit a fake AI resume screener
2	Deepfakes and misinformation	Watch real examples, discuss detection techniques
3	Privacy (facial recognition, data collection)	Debate: "Should schools use face recognition?"
4	AI safety (autonomous weapons, AI alignment)	Write a "10 Commandments of AI" poster
5	Quiz on AI ethics + group discussion	Open-ended questions

Week 18 – Working with APIs

Day	Topic	Activity
1	What is an API? (restaurant analogy)	Visit a public API (Pokémon API) in browser – see JSON
2	Using requests library in Python	Get a random joke from an API and print it
3	Parsing JSON responses	Extract temperature from weather API
4	Project: Live Weather Forecaster (city input → temp, condition, icon)	Add error handling for wrong city
5	Extension: Use another API (News, Quotes, NASA)	Create a "Daily Dashboard" that shows weather + quote

Week 19 – Chatbot Development or We Can Decide Project On Real Time)

Day	Topic	Activity
1	Rule-based chatbots (if-else, dictionaries)	Build a simple math tutor bot (ask, answer, check)
2	Using loops to keep conversation going	Add a goodbye condition (if "bye" in user_input)
3	Adding more responses (random greetings, fallback)	Make bot more natural
4	Project: FAQ Chatbot for school (10+ questions)	Use dictionary of Q&A pairs + loop
5	Bonus: Integrate with GUI (Gradio or tkinter)	Show to friends, get feedback

Week 20 – Computer Vision Basics (OpenCV)

Day	Topic	Activity
1	What is computer vision? (pixels, edges, colors)	Draw a grid of 8x8 pixels to represent a digit
2	Installing OpenCV, reading images (cv2.imread())	Load an image, show it, save it
3	Convert to grayscale, resize, flip	Apply simple transformations
4	Face detection with Haar cascades (cv2.CascadeClassifier)	Draw rectangle around face(s) in an image
5	Project: Face Mask Detector (using pre-trained model or simple color threshold)	Demo with webcam (if available)

Month 6: Robotics, Drone & Live Project (Weeks 21–24)

Focus: Robotics & Drone Technology - Live Project Development

Week 21 – Introduction to Robotics (Simulation)

Day	Topic	Activity
1	What is a robot? Sensors, actuators, controllers	Watch robot videos (Boston Dynamics, LEGO, Roomba)
2	Micro:bit or Arduino basics (LED, button)	Simulate blinking LED (Tinkercad Circuits)
3	Ultrasonic sensor (distance measurement)	Simulate obstacle avoidance (show distance on serial monitor)
4	Servo motors	Simulate a robotic arm sweeping 0° to 180°
5	Mini Project: Design a robot for a specific task (draw + pseudocode)	Present to class

Week 22 – Drone Technology

Day	Topic	Activity
1	Drone parts: frame, motors, propellers, flight controller, battery	Label a printed diagram
2	Drone safety (never near people, battery care, no-fly zones)	Safety quiz (pass/fail)
3	Tello EDU simulator (free) installation & takeoff	Fly forward, backward, rotate left/right
4	Block coding drone: fly in a square, circle, zigzag	Complete a square flight pattern
5	Challenge: Fly through 3 hoops (simulator)	Record best time, class leaderboard

Week 23 – Live Project Development (Teams of 2-3)

Day	Topic	Activity
1	Project kickoff – choose from list or propose own	Form teams, vote on ideas
2	Planning: problem statement, features, flowchart	Submit a one-page project plan
3	UI/UX design (Canva or paper sketch) + data collection (if ML)	Get teacher approval
4	Coding start: set up environment (GitHub Classroom optional)	Core functionality
5	Continue coding: implement main features	Teacher check-in, debugging help

Week 24 – Final Project Completion & Showcase

Day	Topic	Activity
1	Finish coding, test with edge cases	Debugging session with peer help
2	Prepare presentation (slides: problem, solution, demo, challenges, future)	Practice pitch (2 min each team)
3	Create project poster (Canva) + demo video (screen recording)	Upload to shared drive or Google Classroom
4	Project Showcase Day – each team presents (5 min demo + 2 min Q&A)	Judges: teachers + parent volunteers
5	Parent Demo Day + Certificate Ceremony + AI career guidance session (guest speaker)	Celebrate, photos, certificates

Live Project Options (Teams choose one)

Project	Main Skills
AI School Assistant Bot	Python, rule-based chatbot, GUI (Gradio/tkinter)
Smart Attendance System	Face recognition (pre-trained), CSV files
AI Quiz Generator	Random question selection, timer, scoring
Student Study Planner	To-do list, deadlines, priority sorting, file saving
Object Detection App	Teachable Machine, image classification, webcam
AI Story Generator	Markov chains or simple API, user prompts
Drone Race Challenge	Block coding in Tello EDU simulator, path planning
Robotic Obstacle Course	Simulated robot with ultrasonic sensor (Webots or mBlock)

Weekly Structure (5 × 90 minutes)

Day	Focus	Typical Breakdown
Monday	New concept	20 min lecture, 30 min guided coding, 30 min practice, 10 min exit ticket
Tuesday	Reinforce & practice	10 min warm-up quiz, 50 min pair programming, 20 min code review, 10 min summary
Wednesday	Apply to real problem	15 min problem intro, 60 min mini-project work, 15 min share progress
Thursday	Extend & collaborate	10 min new extension concept, 60 min group work / peer review, 20 min reflection
Friday	Assess & showcase	20 min weekly quiz, 50 min project polishing or game day, 20 min presentation of best work

Assessment & Certification

Component	Weight	Frequency
Daily exit tickets	10%	Every session (5 min Google Form)/LMS
Weekly quizzes	15%	Every Friday (10-15 MCQs)
Weekly coding assignments	20%	Due Monday
Monthly mini projects	25%	End of each month
Final live project	30%	Week 24

Certificate Level (based on cumulative score at end of Month 2, 4, and 6):

- 70%+ → Beginner AI Explorer
- 85%+ → Junior Python Developer
- 95%+ → Young AI Innovator

Tools & Platforms (All Free)

Category	Tools
Computer basics	Google Drive, Canva, TypingClub
Block coding	Scratch, mBlock (robotics simulator)
Python	Replit, Thonny, Google Colab
AI / ML	Teachable Machine, Google Colab, Hugging Face Spaces (optional)
Robotics simulator	Tinker cad Circuits, Webots, mBlock
Drone simulator	Tello EDU simulator (free download)
Collaboration	Google Classroom, GitHub Classroom (optional)
Assessment	Google Forms, Kahoot, Quizizz, AutoGrade (for Python)

Bonus Activities (Can be added on Fridays or special days)

Activity	Duration	Description
Hackathon Day	6 hours ((Saturday or Special Day)	Solve a themed challenge (e.g., "AI for good")
Parent Showcase Day	2 hours	Students demo final projects, tour booths
Internship Simulation	1 week (during Month 6)	Roles: product manager, coder, tester, presenter
AI Career Session	1 hour	Guest speaker from industry (Zoom)
Typing Tournament	1 hour	Competitive typing race with prizes

End of Program Outcomes

By the end of Month 6, each student will have a portfolio including:

- 1 animated Scratch game (Virtual Pet or Maze)
- 4 Python apps (Quiz, To-Do List, Password Generator, Attendance System)
- 1 trained ML model (image, pose, or sound classifier)
- 1 team-based live AI/robotics project (presented to parents)
- Certificate of completion (Level 1, 2, or 3)