

Pioneer Coders Bootcamp

South Africa's Advanced Online Python, AI & Robotics Bootcamp for Teens 14–17

Advanced Development & an Intro to AI

Pioneer Coders is our most advanced level — built for teens ready to go beyond the basics. Learners deepen their Python skills with OOP and APIs, add JavaScript and SQL to their toolkit, build physical computing projects with Raspberry Pi, and get a real introduction to AI and machine learning. It all comes together in a capstone project — either a full-stack web app or an AI/robotics build, depending on which modules you've taken along the way. Based in Johannesburg, we teach live online to families across South Africa — including Cape Town, Durban, Bloemfontein and the Eastern Cape.

[Advanced Python](#)[JavaScript](#)[SQL](#)[Raspberry Pi](#)[micro:bit](#)[Arduino](#)[Intro to AI](#)**14–17**

Age Range

1 hr

Per Lesson

10

Lessons / Term



Adult Course Pathway

WHAT THEY'LL LEARN

Pioneer Coders Bootcamp Curriculum

Advanced Python

Object-oriented programming, working with APIs, and file handling — moving from scripts to real applications.

JavaScript

Build interactive, dynamic web applications that respond to user input in real time.

SQL Basics

Design, build and query relational databases — the backbone of almost every real application.

Raspberry Pi

Physical computing and real-world projects — code that controls hardware beyond the screen.

Robotics — micro:bit

A second physical-computing platform alongside Raspberry Pi — motors, sensors and AI-driven robot behaviours built on the BBC micro:bit.

Robotics — Arduino

A third physical-computing platform — deeper electronics and Arduino boards, building on the micro:bit and Raspberry Pi work with more advanced projects.

Intro to AI & Machine Learning

Understand how AI and ML actually work — not as a buzzword, but as something learners can build with and direct. Goes deeper via the Module Library below.

Capstone Project

Choose between a full-stack web application or an AI/robotics build for your capstone — the right fit depends on which modules you've completed. Either way, it's ready to showcase to universities and employers.

Prerequisites: Comfortable with basic programming concepts (variables, loops, functions) — ideal for Explorer Coders graduates or teens aged 14–17 with some prior coding exposure.

AT A GLANCE

Level Details & Pricing

Ages	14–17
Format	Live Online
Lesson Length	1 hour
Class Size	Max 8 learners
Outcome	Web app or AI/robotics capstone

Pricing	
Ad-Hoc Lesson	R 300
School Term (10 lessons)	R 2,750
School Year (40 lessons)	R 9,900
Monthly Debit Order (40 lessons/yr)	R 1,000/mo

MODULE LIBRARY

Extra Projects to Choose From

AI Robots with micro:bit

Design, build and code AI-driven robots step by step — motors, sensors, and simple machine-learning behaviours brought together in hands-on builds — a direct feeder into the AI/robotics capstone path.

Interactive JavaScript Projects

Three substantial builds — a Pong-style game with a virtual opponent, an app that generates electronic music, and a data-visualization tool powered by a live API.

Advanced Raspberry Pi Robotics

Build a robot from the ground up — wiring, motors and sensors — then add line-following, obstacle avoidance, and computer-vision object recognition — a direct feeder into the AI/robotics capstone path.

Machine Learning Foundations

A gentler, no-prerequisite on-ramp to AI — 13 small ML-powered projects, including a hand-shape-recognizing Rock-Paper-Scissors game and a simple chatbot. Great before or alongside the AI Robots module, and a feeder into the AI/robotics capstone path.

 **Pioneer Coders Bootcamp Certificate**

Complete all 4 years (ages 14–17) — each covering a minimum of 40 hours from the core curriculum and Module Library — and finish with the capstone: either a full-stack web application or an AI/robotics build, depending on the modules completed along the way — ready to show universities and employers. Graduates earn the Pioneer Coders Bootcamp Certificate, plus a formal pathway into Code College's adult professional bootcamps.

FAQS

Common Questions

Q What can teens do after completing Pioneer Coders?

Graduates get a formal pathway into Code College's adult professional courses — Python, MERN, Spring Boot and more — with an alumni discount.

Q Is Pioneer Coders only available in Johannesburg?

No — though our head office is in Johannesburg, Pioneer Coders is taught live online to teens across South Africa, including Cape Town, Durban, Bloemfontein and the Eastern Cape.

Get in Touch

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Terms start Feb · Apr · Jun · Sep · Ad-Hoc lessons available year-round · Sibling & group rates on request