



Summer Camp

Powered by Code.Hub

***Programming
From Zero to Hero***

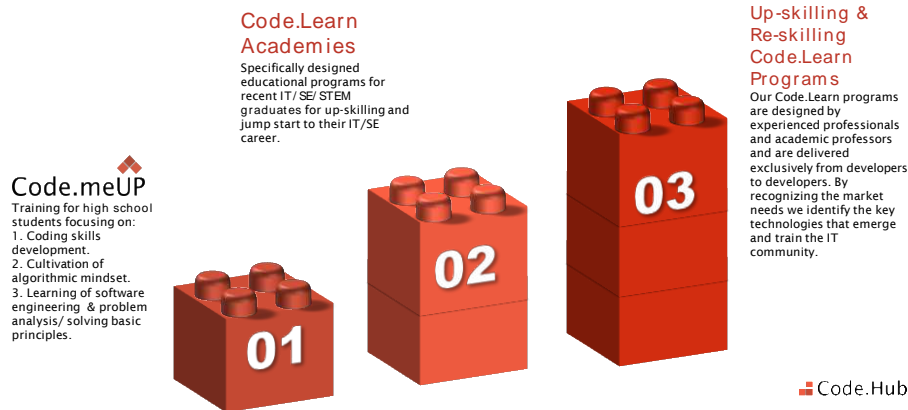
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1. Introduction about the partner

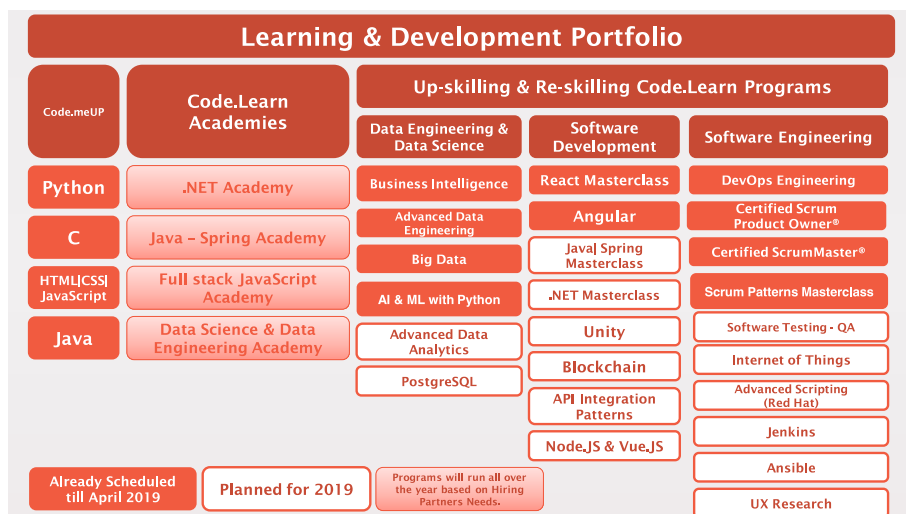
Code.Hub is the first IT/Tech Hub in Greece that connects all IT professionals by creating the right conditions in order to achieve their up-skill and re-skill as well as the integration of young STEM graduates into the IT Industry through specially designed training programs (academies) that provide them with the necessary knowledge and hands-on experience about cutting-edge technologies and industry workflows. The figure below contains an overview of Code.Hub training services.

Learning and Development Portfolio



Our vision is that every member/individual of the IT community should have the opportunity to evolve through Code.Hub actions and services as well as IT companies to be able to capitalize on Code.Hub's learning & development portfolio and make it their most effective HR and people development tool.

During 2019, about 1500 software engineers, programmers and recent graduates of IT and STEM Universities took part in Code.Hub's training activities. Following many months of preparation, in 2019 Code.Hub launched **Code.meUP initiative** that focuses on technology and programming training for students. In February 2019, Code.meUP program initiated with the first two cohorts (C and Python) and during the academic year 2019-20 many kids enrolled to Code.meUP programs.



2. Why to participate/ Rational

Each student should and can acquire the appropriate knowledge in programming languages following the current developments in the field of Information Technology as early as possible on his/her educational journey. The ultimate goal of this program is:

- The development of skills and competences related to the use of code.
- The cultivation of algorithmic skills and way of thinking.
- The empowerment of the students with the principles and software engineering mindset

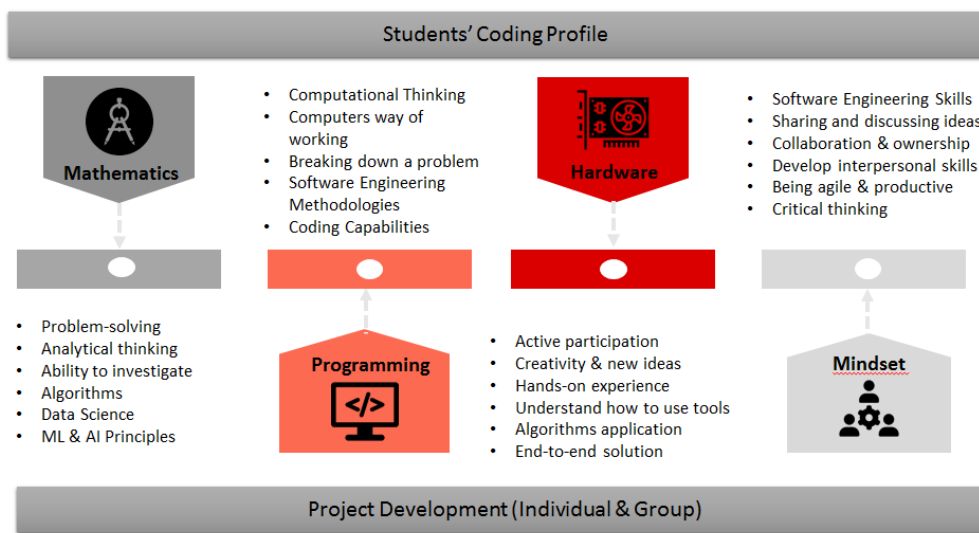
A Tech Summer Camp is considered an important investment for a student and program priority will be to help the students obtain a clearer view of their future educational and academic path!

3. Program Overview

3.1 Program Vision

Code.Hub vision for this program is to apply cutting-edge technological trends in combination with advanced teaching methods for students that want to invest their time for the benefit of their digital literacy. This vision is structured as a framework of four main pillars that exist under the general aim of the accomplishment/ completion of programming **projects/ challenges that will formulate student's early programming profile**. The main program's pillars are the following:

- **Mathematics** through the data science field (algorithms, statistics, analytics, AI, ML)
- **Programming** principles, methodologies and projects development
- Familiarization with electronics, **hardware** devices and corresponding components programming
- **Software Engineering** mindset, collaboration & **team building**.

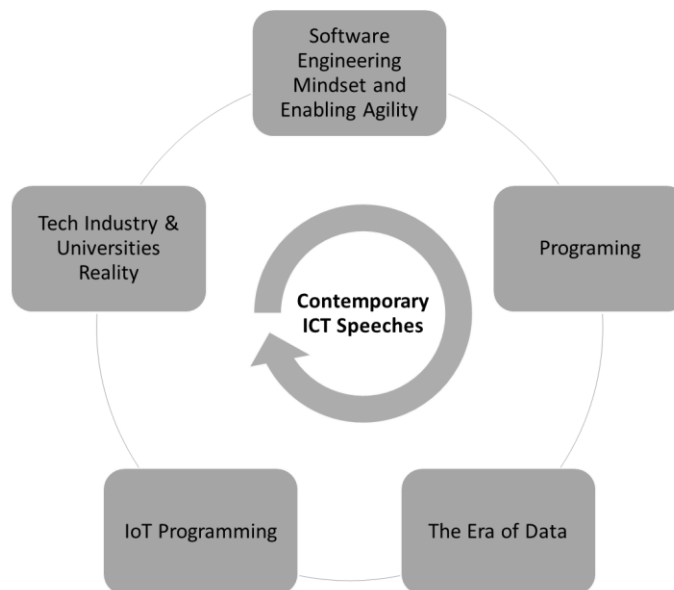


3.2 Program Structure

There will be the following **main streams** adjusted to the above four pillars that will run throughout the whole course duration with injection of additional lectures regarding contemporary ICT topics.

- **Stream 1:** Building the Software Engineering Mindset and Enabling Agility (1 Hour/ Day)
- **Stream 2:** Programming (from Zero to Hero) (2 Hours/Day)
- **Stream 3:** The Era of Data (Data Science, Artificial Intelligence & Machine Learning fundamentals) (1 Hour/Day)
- **Stream 4:** IoT Programming (1 Hour/Day)
- **Stream 5:** Tech Industry & Universities Reality (approximately 1 additional/ optional Hour /Week)

Contemporary ICT Topics/Speeches: At least two speeches from Industry experts will be scheduled (approximately 1 additional/ optional Hour/Week)



4. Duration & Target Group

Brief information regarding the Summer Camp duration is provided below:

- **Calendar Duration:** 2 Weeks
- **Weekly Schedule:** 3 days per week (Monday-Wednesday-Friday)
- **Training hours per Day:** 5 Hours (+1 optional)
- **Total training & development hours:** 30 Hours
 - 30 hours of training and project development
 - Additional 4-6 optional hours for IT/Tech career consultation, industry mapping & Contemporary ICT speeches from IT industry experts

Target Group: Students of ages thirteen (13) till seventeen (17).

5. Enrollment preconditions

There are no special requirements associated with this program apart from the age range stated above.

6. Daily schedule & Learning path

Indicative content and outline is presented below:

- ❖ **Stream 1: Building the Software Engineering Mindset & Enabling Agility**
 - Requirements discovery
 - Software design
 - User interface design basics
 - Agile methodologies
 - Agile studying and development patterns
 - Obligation Ownership & team building
 - Working in teams (roles, values & reality)
 - Time management
- ❖ **Stream 2: Programing (from Zero to Hero)**
 - Basic development standards
 - Integrated development environment & Toolkit
 - The process and experience of writing code
 - Debugging with the console
 - Variables and data
 - User interaction
 - Conditions
 - Loops and Iterations
 - Functions
 - Code organization
 - User Interface
- ❖ **Stream 3: The Era of Data (Data Science, Artificial Intelligence & Machine Learning fundamentals)**
 - From data to information and knowledge
 - Data storage (issues & reality)
 - Data manipulation
 - Data analysis
 - Statistics
 - Algorithms
 - Artificial Intelligence (basics)
 - Machine Learning (basics)
- ❖ **Stream 4: IoT Programming for Kids**
 - An Overview of IoT Technologies
 - Programmable IoT platform
 - Programming concepts & capabilities
 - Interfaces & Sensors
 - Coding
 - Demonstration & testing
- ❖ **Stream 5: Tech Industry & Universities Reality**
 - Tech Universities (Current status & challenges)
 - Market Industry characteristics
 - Global IT Industry
 - Profiles
 - Careers
 - Job descriptions

Indicative Timeplan is presented below:

	Week 1			Week 2		
Sessions	Monday	Wednesday	Friday	Monday	Wednesday	Friday
Software Engineering & Agile	1 hr	1hr	1hr	1 hr	1hr	1hr
Programming	2 hr	2 hr	2 hr	2 hr	2 hr	2 hr
The Era of Data	1 hr	1 hr	1 hr	1 hr	1 hr	1 hr
IoT Programming	1 hr	1 hr	1 hr	1 hr	1 hr	1 hr
Tech Industry & Universities	1 hr			1 hr		
Contemporary ICT Speeches			1 hr			1 hr

7. Assessment Methodology & Certification Process

The certification process includes the following compulsory criteria.

On/off condition:

- To participate to the whole program (30 hours) or maximum 10% (3 hours) absences allowance.

Assessment Methods:

Type	Assessment Type	Submission Date	Contribution (%)
IP1	Individual Project	End of week 1	30%
AL1	Individual Assessed Lab	Mid of week 2	20%
GP1	Group Project	End of week 2	30%
PR1	Presentation	End of week 2	20%

- (IP1) Successful delivery of the personal project. The individual project will act as a building block of the final group project.
- (AL1) Participation and successful delivery of the coding challenge.
- (GP1) Successful delivery of the group project
- (PR1) Participation to the team presentation at the end of the course.