

42

| MALAYSIA
Sunway Education Group

42

DECODED

THE ULTIMATE GUIDE

A Nation-Building Initiative
By:

Jeffrey Cheah
Foundation
Nurturing the Seeds of Wisdom

SUNWAY
EDUCATION

 KHAZANAH
NASIONAL

CONTENTS

1

About 42 Malaysia & Kuala Lumpur

2

The learning model

3

The admission process

4

About the Piscine

5

Testimonials & achievements

6

The application process

7

FAQ

OUR STORY SO FAR

ABOUT US

42 Kuala Lumpur (42KL) stands as a pioneering computer programming school, offering a unique mix of peer-to-peer learning, a project-based approach, and gamification.

This innovative educational model is crafted to equip individuals with the essential skills to jumpstart a successful career as a software engineer.

The Kuala Lumpur campus is part of the 42 Malaysia initiative, which includes campuses in other states across Malaysia.

42 Malaysia is a nation building collaboration between Sunway Education Group and Khazanah Nasional Berhad, aims to cultivate homegrown tech talents to propel the nation's digital aspirations.

Our mission is to provide an unparalleled education opportunity to any Malaysians regardless of their socioeconomic status and educational background.

SINCE
2020

0
FEES
TEACHERS
CLASSES

100%
CODING

50+
CAMPUSES AROUND
THE WORLD

LEARNING MODEL

THE 42 METHOD

1 PEER-TO-PEER LEARNING

Students learn by actively interacting and learning from each other. They play both roles as learners and teachers.

Peer learning enhances understanding of the subject, teamwork, and communication.

It fosters diverse perspectives, making education engaging while building confidence, critical thinking skills and communication skills.

3 GAMIFICATION

Our curriculum utilises game elements and principles to engage and motivate students.

Academic progress is accounted for using experience points and each project unlocks new projects.

Each successive project is increasingly harder with more rewards.

2 PROJECT-BASED LEARNING

It centers around hands-on, practical projects as the method of learning.

Students engage in projects that can last from 2 days to 6 months. We have over 300+ projects available in our curriculum that can be done solo or in groups.

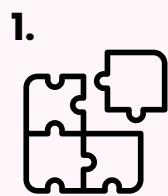
Project-based learning often emphasises critical thinking, and creativity, allowing students to apply theoretical knowledge to practice.

**WE BREAK AWAY
FROM
TRADITIONAL
METHODS OF
LEARNING**

THE STUDENT JOURNEY

A step-by-step journey of every student in the programme.

Each phase offers unique opportunities for learning, growth, and hands-on experience.



Game

Complete a 2-hour logic and memory game.

This will assess your logical thinking and problem-solving skills.

Piscine

Experience the innovative way of learning by joining the 28-day coding boot camp.

Upon passing, you will be invited to the Core programme.



Core programme

Your coding journey officially begins!

This programme is 12-18 months long.

Learn deeper about C language through a multitude of projects and exams.

Upon completion, you are industry-ready!



3.

4.



Advanced programme

After completing Core, you can choose to specialise in the domain of your interest.

This is an optional path.

ABOUT THE PISCINE

**Dive into the world of
programming by joining our
coding boot camp!**

It is the final step in our admissions process. The Piscine is 7 days a week for 28 days and it takes place physically at our campus.

The word “Piscine” means swimming pool in French. The idea is that everyone should learn to swim by diving first into the water.

During the Piscine, you will learn the basics of Shell and C language, which will provide you with a solid foundation for other programming languages.

You will dive into a mix of solo and group projects and weekly exams.

Here's what you will gain from the Piscine:

- Technical fundamentals of using Shell commands and C language,
- Improved logical thinking and problem-solving skills.
- Adaptability and learning agility.
- Collaboration and communication skills.
- Resilience and growth mindset.

**28
DAYS**

**LEARN
SHELL
C LANGUAGE**

**NO
PRIOR CODING
SKILLS REQUIRED**

**ON-SITE
PROGRAMME**

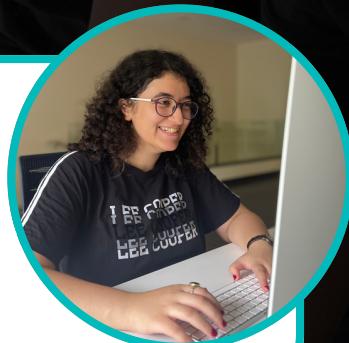
WHAT OUR STUDENTS SAY

We asked some of our students about their experiences in the Piscine:



"Nothing beats the space 42KL provides to learn in. Though it has been a short time, I truly believe that 42KL has managed to set a solid foundation for me to continue as a coder in the future."

Adam Muaz, 28 years old.



"Piscine was far better than I had anticipated.

The quantity of knowledge I have learned over the past few weeks is far greater than the knowledge I learned over a semester of coding at my university."

Sara, 24 years old.



"At school or work, your peers are often also your competitors. I'm surprised that everyone was always willing to help as long as you were willing to ask."

Roy, 52 years old.

OUR PROGRAMMES

TWO-PART HIGHER EDUCATION LEVEL PROGRAMME

FOUNDATIONAL

**Core
programme**
(12- 18 months)

Learn coding
fundamentals
through projects.

Internship
(4-6 months)

Test your
skills in the
real world.

SPECIALISATION

**Advanced
programme**
(up to 2 years)

Choose to
specialise in a
domain you prefer.
This is optional.

CORE PROGRAMME

Duration: 12 – 18 months

Programme Introduction

The programme aims to equip students with intensive training to emerge as adept professionals equipped with the essential skills and mindset for the industry.

It develops their adaptability to technologies and languages while maintaining high standards.

Emphasizing a "learning how to learn" approach, students tackle diverse programming challenges, communicate effectively, and learn from mistakes.

Programme Structure

25 projects (solo & group)

5 exams

1 internship (4 to 6 months)

Organised By:

SUNWAY
EDUCATION

Skills Developed

- Object-oriented programming
- Cloud Computing
- Algorithms
- Graphics & Game Dev
- Networking, Servers & System Admin
- Databases & Data structures
- Security
- Parallel Computing
- Web Development
- UNIX
- Blockchain

Technical Stack

**Students are not limited to only:*

- C, C++
- Docker
- MySQL, PostgreSQL
- HTML, Javascript, CSS, Typescript
- Version Control – Git
- Django
- Ruby
- Smart Contract – Solidity

Career Prospects*

- Fullstack Developer
- Frontend/Backend Developer
- Web Developer
- Game Developer
- Network/System Engineer
- Technical Analyst
- DevOps Engineer

**Not limited to this list.*

ADVANCED PROGRAMME

Duration: up to 2 years

Programme Introduction

You can specialise in a field of your choice. The programme is optional and it aims to train you up to the **equivalent of a master's degree**.

You will not be obligated to stick to one specialisation. Students are free to pick the domains they want to explore. This helps them diversify their skills and expertise.

The curriculum offers more than a hundred projects and is regularly refreshed to stay up-to-date with the demands of the industry.

Programme Structure

100+ projects (solo & group)

1 Professional Experience

∞ Startup Launchpad Support

Organised By:

SUNWAY
EDUCATION

Domain Expertise

- Machine Learning & AI
- Cybersecurity
- Web & Mobile App Development
- Operating Systems & Kernel
- Graphics & Game Dev
- DevOps
- Cryptography
- Computational Mathematics

Skills Developed

**Students are not limited to only:*

- Python/Pandas for Data Science
- Data Analytics & Visualisation
- Encoding & Encryption / Ciphers
- Ethical Hacking
- Kubernetes
- Cloud Servers
- Network Design & Simulation
- Unity/OpenGI/Advanced Raytracing

Career Prospects*

- Chief Technological Officer
- Cloud Solutions Architect
- AI/Machine Learning Engineer
- Big Data Engineer
- Cybersecurity Analyst
- Blockchain Developer
- Data Scientist

**Not limited to this list.*

PROJECT EXAMPLES

Here's a snapshot of some projects from the programme.

miniRT



miniRT is a graphical project where students create a basic ray tracer from scratch in the C programming language.

This programme simulates how rays of light interact with virtual objects to produce realistic images.

ft_transcendence



ft_transcendence combines gaming and programming, challenging you to recreate '79 Pong from scratch.

Gain practical experience managing player registrations, progress tracking, scoring wins, and incorporating real-time chat and spectator functions.

webserv



In the expansive world of internet protocols, HTTP is the backbone of web communication.

This project is where students write their own custom non-blocking HTTP server. Truly understanding the intricacies of web communication.

WHAT OUR STUDENTS SAY

We asked some of our students about their experiences in the Core Programme:



"Being in conventional education, where succeeding is to memorise and apply, feeling that failure is the end of things; it was really like a whole new world at 42KL. You're encouraged to ask and teach. You're taught that there are many ways to solve the same problem."

Almas, 21 years old.

"Having completed the Core programme, every project that I have done is a testament to my ability to navigate uncharted territories.

It is an invaluable skill for learning how to learn."

How Zheng, 24 years old.



"The fast-paced and dynamic learning environment has pushed me to constantly learn, unlearn, and relearn. This allows me to develop as a well-rounded coder capable of tackling any obstacle that comes my way."

Pei Yun, 31 years old.

STUDENTS ACHIEVEMENTS

In recognition of the diverse talents, dedication, and accomplishments within our student community.



Top 10 Finalist - Standard Chartered ImpactHack 2023

Their project ScoutSmart aims to help SMEs find ideal business expansion locations efficiently using AI.

(Bunyod Shamsiddinov, Brian Yeap, Yap How Zheng)



Winner - 42 Abu Dhabi Global Sustainability Hackathon 2023

Tackling food wastage and overproduction, with AI-powered predictions to minimise food wastage and overproduction.

(Chuah Tse Yung, Ricky Wong, Lau Pei Yun, Wang Xue Rui and Ah Ze Hao)



ETHEREUM Hackathon 2023

4 out of the 5 teams from 42KL emerged as winners. With a total prize pool of USD 25.5k, our students swept up 40% of the prize pool, totaling up to **USD \$10k**.

(Eason Chai, Chuah Tse Yung, Jaclyn Tan, Lee Cheng Zer, Jason Koh, Alvin Yap, Bunyod Shamsiddinov, Yap How Zheng, Shawn Teh, Hoo Yun Zhe, Wing Yan)

STUDENTS ACHIEVEMENTS



3rd Place - Solana Hyperdrive Hackathon 2023, USD15k win

Byte In, is a mobile city-building game that aims to foster healthier eating habits. Through AI image recognition, it gamifies diets, making them fun and accessible for all.

(Soo Rong Jie, Lee Sin Liang, Brendan Beh, Gan Shao Qin, Benson Chang)



42KL Peer Defence Hackathon 2023

68 cadets gave back and built amazing automation tools and data solutions to solve daily problems that we staff members have at 42KL! Some of the solutions have saved hours and hours of our daily work.



ETHEREUM Hackathon 2023

4 out of the 5 teams from 42KL emerged as winners. With a total prize pool of USD 25.5k, our students swept up 40% of the prize pool, totaling up to **USD \$10k**.

(Eason Chai, Chuah Tse Yung, Jaclyn Tan, Lee Cheng Zer, Jason Koh, Alvin Yap, Bunyod Shamsiddinov, Yap How Zheng, Shawn Teh, Hoo Yun Zhe, Wing Yan)

ADMISSIONS 5-STEPS

100%
**MERIT-BASED
ADMISSIONS**

1 REGISTRATION

Create an account on
www.apply.42kl.edu.my

2 PLAY: ONLINE GAME

Test your cognitive skills
with our proprietary online
game.

3 WATCH: INTRO VIDEO

Watch an online
introductory video of the
programme and curriculum.

4 JOIN: PISCINE

Our version of a coding boot
camp. This is the final step of
the admission process. Learn
the fundamentals of coding
here.

5 START: CORE

Begin the main curriculum,
called Core programme and
continue your journey in
coding.

ABOVE

17

YEARS OLD

**NO
ACADEMIC
REQUIREMENTS**

**YES
INCLUSIVITY
DIVERSITY**

OUR ECOSYSTEM

A nation-building initiative by:



KHAZANAH
NASIONAL



Our partners:



FRASERS GROUP
ASIA



HUAWEI

Roland
Berger



OUR GLOBAL PRESENCE



CONTACT DETAILS

42 Kuala Lumpur

Duplex, Jalan PJS 11/26, Bandar Sunway, 47500 Subang Jaya, Selangor

www.42kl.edu.my

community@42kl.edu.my

@42KualaLumpur

42 Iskandar Puteri

Level 1, Sunway GRID hub, Persiaran Medini 3, Sunway City, 79250 Iskandar Puteri, Johor

www.42iskandarputeri.edu.my

community@42iskandarputeri.edu.my

@42IskandarPuteri

42 Penang

UAB Building, Gat Lebuh China,
George Town, 10300 George Town,
Pulau Pinang

www.42penang.edu.my

community@42penang.edu.my

@42Penang

100% CODING.