

HIGH-TECH BOOT CAMPS

Schools offering Silicon Valley-style tech courses target students with aptitude and commitment, with no need for paper qualifications

Yuen Sin

Ms Gabrielle Ong, 18, was accepted into the course of her choice at five local and overseas universities, but she has decided to work in the tech industry instead.

Armed with zero programming knowledge, Ms Ong, who was a student in Raffles Institution (Junior College), started attending a crash course on Web development at General Assembly (GA) Singapore in February.

Having completed it earlier this month, she is now considering two offers to become a junior developer for tech companies after her paid stint as an instructional assistant at GA ends in August.

A slew of schools offering Silicon Valley-style boot camps in a range of tech-related fields are eyeing students like Ms Ong.

No relevant paper qualifications are needed, just aptitude and commitment.

These schools, which offer full-time courses lasting from seven to 12 weeks, as well as part-time courses, are hoping to attract students hungry to enter the tech industry.

The first of these to open here is GA, a New York-headquartered education company that expanded to Singapore last year.

More are to follow: Next Academy, a coding school that started in Malaysia; Alpha Camp, a technology and start-up school launched in Taiwan and Hong Kong; and Make School, a software engineering and product development school from San Francisco that bills itself as an alternative to university. They plan to open full-time courses in the next few months.

What distinguishes their programmes from traditional university computing courses is their accelerated learning model that adopts a practice-based approach.

At Alpha Camp, for example, students across all four main tracks – digital marketing, product design, Web development and app development – are expected to collaborate and put a working product together at the end of the course. There are also mentorships, networking events and career placements.

With full-time course fees ranging from \$7,000 to \$12,000 before applicable subsidies, these courses



Ms Ong showing potential employers tech projects that she worked on. She attended a crash course on Web development at General Assembly Singapore after her A levels, and is now considering two offers to become a junior developer for tech companies. PHOTO: DANIEL NEO FOR THE SUNDAY TIMES

– which can rival the cost of a year's university fees here – do not come cheap. But the schools say that they will pay off for most students.

Mr Christopher Quek, director of Make School Singapore, said that more than 90 per cent of its graduates in the United States who are working adults either find work in the tech industry or have founded start-ups three months after graduation, while the same proportion get internship offers in the tech industry.

GA claims that globally, 99 per cent of its job-seeking graduates have found work in the fields they were trained in, or have gone on to start their own companies

within six months of graduating from full-time courses.

Some students at GA Singapore are also employees who have the support of their companies to take a sabbatical from work, and return to join their businesses' digital operations.

GA has had more than 300,000 students in its global programmes so far, and over 100 in Singapore have recently graduated from or are in full-time programmes.

The high percentage of graduates who secure employment could be down to the schools' highly selective admissions process, which tests students' commitment to change and learning, and puts them

through basic challenges to test their logical reasoning skills.

Next Academy admits about 10 per cent of the students who apply, and will have 15 places for its Web development boot camp next month, which will grow to a monthly intake of 40 subsequently.

Alpha Camp's acceptance rate hovers at around 20 per cent.

Mr Bernard Chan, its Hong Kong-born founder, said the boot camp's immersive approach gives a leg-up to career-switchers looking for new beginnings. "It's not just about acquiring a skill, but learning how to think differently, and understanding the mindset and culture of the industry," he said.

Could such start-up schools replace university courses in Singapore as they expand their intakes in the future?

Earlier this month, a White Paper released by the British government, aimed at reforming further education, drew fire for a proposal that will allow "high quality" start-up education providers to award degrees for a probationary period to respond to the needs of the economy.

Detractors cast doubt on the quality of education provided by new entrants, and argued that students would be penalised if course standards proved to be inadequate.

Make School Singapore's Mr

Quek said it has a "vision" to accept students who are 18 years old and younger.

At Make's US headquarters, the ages of students typically range from 13 to 25.

However, it is currently targeting working adults in Singapore, and its pilot seven-week full-time app development programme for 30 students will start next month.

Mr Khoong Chan Meng, director and chief executive of the Institute of Systems Science at the National University of Singapore (NUS-ISS), which offers skills acceleration programmes for tech and digital professionals, said that whether or not these new schools will replace the traditional university or even the polytechnic model of learning is "less of an issue".

Instead, they offer a "new range of multiple pathways" that allow Singapore to address the current shortage of digitally savvy professionals.

In February, the Infocomm Development Authority noted that Singapore may find itself short of nearly 30,000 information technology professionals by next year.

But that is just "the tip of the iceberg", said Mr Khoong, as there is also demand for digitally savvy employees who can collaborate with tech professionals to develop and integrate software into the business model, which could mean that "hundreds of thousands" of such personnel are needed.

Last October, NUS-ISS started a programme called StackUp, which will join the other start-up schools in offering intensive practice-based tech courses.

It has piloted two courses in programming and Web development for 30 students in the last three months, and will refine and expand its programme to include offerings in security engineering and big data engineering in the future.

Professor Wong Poh Kam, director of the NUS Entrepreneurship Centre, noted that start-up hopefuls may need more time to develop a sound foundation in both business and technical know-how.

"Being able to build a great app alone doesn't mean that you can start a company," he said. "You also need to understand customer needs and do market validation."

yuensin@sph.com.sg

Learning website founder was code-illiterate

When Ms Elisha Tan founded learning website Learnemy in 2011, she had to teach herself how to code.

"I couldn't find a technical co-founder, so I rolled up my sleeves and learnt it on my own," said the 28-year-old psychology graduate from the National University of Singapore.

In January, she launched TechLadies, a community-led initiative that introduces women to programming and the tech industry.

"It's such a shame that some women are put off by programming because they think that it's a male-dominated field," she said.

Nine women out of 130 who applied were picked for a free eight-week programming bootcamp that ended in April, with coaches from the industry teaching programming languages like Python and Ruby.

The participants met for four hours every Saturday, spending at least 10 more hours a week on their projects, which involved working in teams to build products for three non-governmental organisations, including the Humanitarian Organisation for Migration Economics.

Out of the nine, two have already found jobs in technology, while another two have been interviewed for positions in the industry.

In September, TechLadies will organise another programming bootcamp, which will be expanded to 10 weeks and require selected students to attend pre-bootcamp workshops.

Such a community initiative will not replace what can be learnt from a three- or four-year computer science degree, said Ms Tan, but it can give people skills to build simple applications and work on projects or find internships.

"Not everyone should aim to become a software engineer, but technology is so prevalent that it is important to be literate in code," said Ms Tan, who is also a market-



Ms Elisha Tan (standing), founder of TechLadies, says it is a shame women are put off by programming because they think that it is a male-dominated field. She is seen here with Mr Jaryl Sim, founder of Tinkerbox, and Ms Kate Lim, a Tinkerbox intern. ST PHOTO: LIM YAOHUI

ing associate with a multinational tech company. "When you work in a team, you learn about project management and how to communicate with developers."

TechLadies student Kate Lim, 29, who used to work in pharmaceutical sales, was hired as an intern at software development company Tinkerbox Studios last month after her mentor Jaryl Sim, 30, who is also the company's founder, noticed her potential.

Ms Lim is considering founding a start-up, becoming a junior developer or joining the tech industry in a role such as business development or product management after the six-month internship.

She said: "Compared to learning coding on your own, the practical experience we had on the course and the exposure to the tech community really made a difference."

Yuen Sin

IMPORTANCE OF CODE LITERACY

Not everyone should aim to become a software engineer, but technology is so prevalent that it is important to be literate in code. When you work in a team, you learn about project management and how to communicate with developers.



MS ELISHA TAN, who launched TechLadies.

TECH PROGRAMMES ON OFFER

ALPHA CAMP

Programmes include: 10-week boot camp with four main tracks – digital marketing, product design, iOS app development and Web development.
• Courses expected to start: July or August this year
• Fees before any applicable subsidies: \$7,000-\$12,000

GENERAL ASSEMBLY SINGAPORE

Programmes include: 12-week full-time Web development immersive, and 10-week user experience design courses, part-time data analytics, and digital marketing courses.
• Courses started: July last year
• Fees (full-time): \$10,000 to \$11,500
• Fees (full-time) after subsidies: \$3,000 to \$3,450

MAKE SCHOOL SINGAPORE

Programmes include: Seven-week full-time iOS app development programme, followed by intermediate and advanced iOS courses.
• Courses start: June 20 this year
• Fees: \$8,000 for seven-week immersive iOS course, Singaporeans in first cohort get 70 per cent discount

NEXT ACADEMY

Programmes include: Nine-week Full Stack Web development boot camp.
Courses start: June 27 this year
• Fees before any applicable subsidies: \$9,000

STACKUP PROGRAMME

• Programmes include: Five-day introductory coding course, 40-day Full Stack Foundation Web development course
• Courses started: March this year
• Fees (Singaporean/PR after funding): \$385-\$3,210
• Fees (Foreigners): \$1,284-\$10,700

TECHLADIES

Programmes include: 10-week programming boot camp (part-time).
• Courses start: September this year
• Fees: To be announced