Learn the Skills, Tools and Techniques to Launch a Successful Career as a Software Developer

NTU SGUnited Skills Programme in
Software Developer Immersive
Co-organized by PaCE@NTU and Skills Union
Funded by SSG and eligible for SkillsFuture Credit
Course Outline

This 6-month course has been designed by industry experts to provide all the knowledge and skills of Software Engineering, to enable graduates to excel in a career in this exciting and highly in-demand field.

You will gain essential hands-on experience on how to be an effective coder, build and test software products, understand how information technology works in our society, and learn the key tools and frameworks for different software development roles to launch a successful career.

The Software Developer Immersive combines problem-solving, creativity, empathy, and logic to equip learners with well-rounded technical skills to meet the current industry demands.

Throughout the course, learners will learn the critical aspects of the Software Development processes, including requirements gathering, planning, coding, and testing. They will also learn the foundations of product management - including Scrum and Agile - to provide them with the core skills to work in technical development teams in start-ups, agencies, and product companies, etc.

Programming Fundamentals
Frontend Frameworks & APIs
Backend Frameworks & APIs
Mobile & Full-stack Development
Relational & NoSQL Databases
Agile & Product Development
Course Modules

Programming Fundamentals
This module covers the basics of programming that are transferable to learning any programming languages they encounter in the workplace. Learners will be equipped with the fundamentals of programming before advancing to frontend, backend and mobile development.

Frontend Framework & APIs
React JS is a JavaScript component-based framework that has become the most popular framework in the tech industry for building frontend web platforms. In this module, learners will learn the fundamentals of React, the best practices and build a single-page application that consumes APIs for dynamic data representations.

Backend Framework & APIs
Many companies such as Netflix, PayPal and LinkedIn have experienced great performance improvement using Node.js. In this module, learners will learn how to build APIs with Node.js consumable by both web and mobile applications.

Mobile & Full-stack Development
Learners will reuse their knowledge on React JS and apply them to the mobile platform with React Native where they will learn to deconstruct wireframes produced by UX Designers to implement on mobile development. At the end of this module, learners will deploy a mobile app that consumes live APIs.

Relational & NoSQL Databases
Learners will be developing software that integrates relational (PostgreSQL) and NoSQL (MongoDB) databases that store structured and unstructured datasets. Unlike the olden days where companies used only relational databases, modern software solutions leverage relational and NoSQL to achieve data accessibility and performance.

Backends & Full-stack Development
Agile development puts software release at a competitive advantage as the business no longer has to wait for months for a software release. Agile seeks to deploy shippable software versions regularly. Learners will be working on projects and assignments in a SCRUM methodology.

Our unique learning approach is based on Active Social Learning, where learners learn hands-on by interacting with peers through synchronous and asynchronous e-learning using the flipped classroom model, real-world portfolio projects, and direct access to our Mentors. The learning system is based on David Kolb’s Experiential Learning Model, Honey & Mumford’s Learning Styles, and the Learning Pyramid.

Curriculum
Online flipped classroom, curated content & curriculum

Projects
Learn by doing - real portfolio projects

Portfolio Accelerator
Additional portfolio projects offered to graduates

Peer Learning
Peer presentations and synchronous group discussion

Mentors
Direct 1 on 1 feedback from industry mentors & SMEs

Career Support
Professional development and graduate career support
**Graduate Support & Outcomes**

**Industry-Focused Curriculum**
Our curriculum is designed and developed with direct input from leading technology industry professionals worldwide and working with leading curriculum content providers. Our mission is to work with and support our learners, to deliver radically relevant learning experiences that equip them with the tools, skills, and technologies they need to succeed in the fast-growing digital economy.

**Industry & Mentor Networking**
Our industry network of instructors and mentors includes professionals from some of the most recognized tech companies. Our talented team consists of experienced instructors, mentors, and industry subject matter experts, and ongoing networking support for our graduates, ensuring graduates get the necessary support they need to launch their careers.

**Portfolio Accelerator - Real Projects**
Our graduates work with real startups and hiring partners on projects that provide graduates with the portfolio they need in their job search through our Portfolio Accelerator programme. This project-based, experiential learning approach also allows graduates to learn essential soft skills, such as communicating with clients and the skills they will need in their career for any client-facing role.

**Graduate Career Support**
Our programme focuses on highly sought-after skills, which, combined with a qualifying admissions process, mentorship, and soft skills development, means that graduates are set up for success. We develop partner relationships with local employers and our global community through mentoring, portfolio projects, and hiring events to support our graduates once they have completed the programme.

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**Course Application Details:**
Click on the dates to register now

- **Course Date:** 26 July 2021 to 21 January 2022
  - 20 September 2021 to 18 March 2022
  - 15 November 2021 to 17 May 2022
  - 17 January 2022 to 15 July 2022
  - 21 March 2022 to 16 September 2022

- **Duration:** 720 hours
- **Venue:** NTU Virtual Learning Environment
- **Course Fee:** Standard Fee - S$19,260 (inclusive of GST)
  - Subsidised Course Fee - S$500 nett
  (applicable to Singaporeans and Singapore PRs only)

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*Co-organized with [Skills Union]*