Learn the skills, tools and techniques to launch a successful career as a Software Developer.

Software Development Professional

Co-organized by PaCE@NTU and Skills Union
Funded by SSG and eligible for SkillsFuture Credit
This 3-6 months course has been designed by industry professionals 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 in how to be an effective coder, build and test software products, understand how the information technology works in our society, and learn the key tools and frameworks for different software development roles to launch a successful career.

Software Development Professional combines problem solving, creativity, empathy, logic and technical skill to create well rounded technical experiences that meet the needs of current industry and enable and maintain a positive connection to our society.

Throughout the course, students will learn all of the key aspects of the Software Development process, including requirements gathering, planning, design, and testing. Students will also learn the foundations of product management including Scrum and Agile, providing them with the core skills to work within technical teams in a start up, agency, development team environment.

### Course Outline

- **Programming Fundamentals & Algorithms**
- **Software Development Lifecycle & Tools**
- **Architecture Design**
- **Fullstack Web Development**
- **Database Management System**
- **Agile & Product Development**
Course Modules

**Programming Fundamentals**
This module covers the basics of programming and computer science, in a way that students will have the capability to master any programming language they encounter in the workplace. This allows graduates to be able to face any job hiring headon with knowledge of how to tackle the varying requirements of a technology job.

**Fullstack Web Development**
Web development has become an essential skill set for all businesses to covet. Students learn the different key concerns that different businesses need to consider, and how to apply software techniques and ideas to a company’s product. Taught by industry professionals, this course covers the key processes needed in this IT age.

**Software Development Lifecycle**
This module covers the key aspects of software development project. On completion of this course, students will be able to apply the fundamental principles of to any stage of the software development lifecycle, be it requirements gathering, design, development, testing or production support.

**Database Management System**
In this module students will learn how different Database Management System works, how it applies to the current industry as well as how it affect future technology development. Students will learn the differences between different types of databases, the pros and cons as well as how to manage the different systems.

**Architecture Design**
This module covers the common types of software architecture design, including MVC and REST. Students will learn the building blocks of how to design a software system, and how to use UML diagrams. Students will experience the importance of a well designed software architecture.

**Agile & Product Development**
Product Development and teamwork forms the backbone of all software teams. These essential skills and processes are applicable and projects, whether developing applications, web-based projects or data science. This module also covers the fundamentals of Agile and Scrum, and how to apply these in a professional setting.

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Our learning approach is based around active learning, which means students learn by doing and learning with peers, helping to properly prepare students with both the Technical and Soft Skills of the real world working environment.

- **Curriculum**: Online flipped classroom, curated content & curriculum
- **Projects**: Learn by doing - real portfolio projects
- **Mentors**: Direct 1 on 1 feedback from industry mentors & SMEs
- **Skills Lab**: Additional portfolio projects offered to graduates
- **Career Support**: Professional development and graduate career support.
**Student Support & Outcomes**

**Industry-Focused Curriculum**

Our curriculum is designed and developed with direct input from leading technology industry professionals around the world, and working with leading curriculum content providers. Our mission is to work with and support our students, 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.

**Skills Lab - Real Portfolio Projects**

Through our Skills Lab portfolio programme, our graduates work with real startups and hiring partners on projects that provide students with the portfolio they need in their job search. This project-based, experiential learning approach also gives students an opportunity to learn essential soft skills, such as how to communicate with clients and the skills they will need in their career for any client-facing role.

**Industry & Mentor Networking**

Our industry network of instructors and mentors includes professionals from some of the most recognised tech companies. Our talent team brings in local industry instructors, mentors and industry subject matter experts, and ongoing networking support for our graduates, ensuring programme graduates get the necessary support they need to launch their careers.

**Graduate Career Support**

Our programmes focus on highly sought-after skills which, combined with a selective admissions process, mentorship and soft skills development, means that graduates are setup for success. We develop partner relationships with local employers as well as our global community, through mentoring, portfolio projects and hiring events, to support our graduates once they have completed the program.

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**Course Application Details:**

**Course Date:** 19 October 20 - 18 January 21 (Register here)

**Time:** 15 hours per week

**Venue:** NTU Virtual Learning Environment

**Course Fee:**

- **Standard Fee**
  - S$10,700 (inclusive of GST)

- **Subsidised Course Fee**
  - S$3,210 (after 70% subsidy)
  - S$1,210 (after 90% subsidy)

  (applicable to Singaporeans and Singapore PRs only, click here for more info on subsidies)

  *NTU Alumni Course Credits can be used to offset the total course fee after funding*

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**Co-organized with**

![Skills Union Logo]