

**PROGRAMME LEARNING OUTCOMES (PLOs)  
OF SOFTWARE ENGINEERING EDUCATION PROGRAMME**

*Decision No 69/QĐ-ĐHCNTT&TT dated on February 10<sup>th</sup>, 2020 by the Rector  
of TNU - University of Information and Communication Technology*

Vietnamese name of the programme: *Kỹ thuật phần mềm*

English name of the programme: Software Engineering

Academic level:

- Bachelor's degree (141 credits)

- Engineer's degree (151 credits)

Academic Schedule: 4.5 years

## **I. TRAINING OBJECTIVES**

### **1.1. General objectives**

Training bachelors/engineers in Software Engineering with solid political qualities, a sense of discipline and professional ethics; master the basic and intensive knowledge of Software Engineering, meet the social demand for research, development and application in the field of Software Engineering.

### **2.2. Detail objectives**

By the end of the course, graduates have the knowledge, skills and qualities:

- Have basic and intensive knowledge of Software Development Process; Knowledge and skills in using programming languages and techniques for software development; Knowledge and skills in software testing and quality assurance.
- Have good health, ensure the ability to work with high intensity;
- Have full knowledge of politics, security and defense, law as required by the Ministry of Education & Training;
- Have the ability to use foreign languages for work;
- Have the necessary soft skills for the job.

## **II. PROGRAM LEARNING OUTCOMES**

<b>Notation</b>	<b>PLOs of SE programme</b>
<i>LI</i>	Apply knowledge of natural sciences in order to solve scientific and technical problems in Software Engineering and have the ability to study at

Notation	PLOs of SE programme
	high levels
<i>L2</i>	Understand general educational knowledge on Theory of Marxism-Leninism and Ho Chi Minh Thought, the revolutionary line of the Communist Party of Vietnam, the Party's policy and the State's laws, and national security.
<i>L3</i>	Approach foreign language ability (English), level 3/6 of Vietnam's Foreign Language Competency Framework; specialized English skills.
<i>L4</i>	Apply data structure models and programming techniques to build computer software
<i>L5</i>	Understand the fundamentals of computer operating systems, computer networks, and programming platforms for software development.
<i>L6</i>	Apply basic knowledge of databases and database management systems in software development
<i>L7</i>	Understand the knowledge related to systems design analysis methods and tools in the software development process.
<i>L8</i>	Apply application programming skills in developing software on windows, web applications, open source applications and mobile applications.
<i>L9</i>	Apply knowledge of software requirements specification, modern software architecture to provide solutions in software development.
<i>L10</i>	Apply knowledge of software testing and software quality assessment in system testing
<i>L11</i>	Apply software project management skills in the software development process
<i>L12</i>	Be aware of the context of businesses and organizations to deploy software applications that are suitable for practice
<i>L13</i>	Apply knowledge of software life cycle to predict problems arising during software operation.
<i>L14</i>	Apply communication skills in presenting ideas, giving presentations, giving criticism in software system implementation and deployment.
<i>L15</i>	Apply machine learning fundamentals and pattern design principles in intelligent application development.

### III. WORKING POSITION AFTER GRADUATION

***Job positions:***

- Application developer.
- Software system engineer.

- Software testing engineer.
- Software quality engineer.
- Software production process engineer.
- Software and IT project manager.
- Business Analyst.
- Information systems analyst and designer.
- Data analyst and designer.
- Administrator of database systems;

***These positions are available at companies and businesses in the fields of:***

- Software industry.
- Digital content industry.
- Consulting on system construction.
- Game Industry.
- Trading in software and IT products.
- Software and IT services.
- Information system.
- Software and IT application fields.

**VICE RECTOR**



**Ph.D Vu Duc Thai**

**HEAD OF IT FACULTY**



**Ph.D Nguyen Hai Minh**