

Software Engineering

Tianjin University

** The information below is extracted from the curriculum for current Chinese students at the university, which will be adjusted for international students according to relevant requirements as appropriate. Therefore, please refer to the curriculum used in the year of entry as the final curriculum.*

1. Program Overview

University/School: Division of Intelligence and Computing, Tianjin University

Major: Software Engineering

Awarding Degree: Bachelor of Engineering

Duration: 4 years

Credit Requirement for Graduation: 171 credits

2. Teaching Outcomes

This programme aims to develop highly qualified talents to serve the needs of economic and social development. Students are expected to master the basic knowledge of natural science and knowledge of software engineering, in addition to the basic knowledge of big data, cloud computing, IoT application, AI, etc. They also need to have global insights, innovative mentality and practical skills so as to fit in with the development of new technology, industry and economy. They should be able to be engaged in software development, research, management or pursue further study in this area or adjacencies.

Requirement for Graduation:

- 1) Mathematical ability: able to apply the basic principle of mathematics, natural science and engineering science to identify, articulate, analyse and research complicated engineering problems for conclusions and solutions.
- 2) Software design and development ability: able to apply the basic

- knowledge in software engineering in analysing and tackling complicated engineering problems, designing software systems and modules according to certain requirement with awareness for innovation, taking account of social, public health, safety, legal, cultural and environmental elements while developing high quality codes.
- 3) Software project management: understand and master principles of complicated software engineering project management and economic decision-making methods, applying in interdisciplinary environment with certain ability for software project management.
 - 4) Research ability: able to conduct research by making use of basic scientific principles and methods, including experiment design, analysis and data for gaining effective conclusions.
 - 5) Professional quality and ethics: be equipped with social science qualities and social responsibility, understanding and following professional ethical requirement for engineers in practice.
 - 6) Individual and team: able to work as an individual, team member or team leader in an interdisciplinary environment.
 - 7) Awareness for innovation and internationalisation.
 - 8) Lifelong learning: be equipped with awareness and ability for independent learning and lifelong learning, and the ability for continuous learning and adaptation to new development.

3. Curriculum

Key Disciplines: Software Engineering

Core Modules: Introduction to Computer Systems, Programming Principles, Discrete Mathematics Introduction, Data Structure, Computer Composition Principle I, Computer Composition Principle, Computer Network, Algorithm Design and Analysis, Operating System Principle, Database Principle, C++ Object-Oriented Programming, Java Language Programming (Bilingual), Professional Foreign Language (English), Software Engineering I (Bilingual), Software Engineering II (Bilingual), Compilation Principle, Formal Method (Bilingual), Software Testing Technology (Bilingual), etc.

Related Majors: Computer Science and Technology