**< Introduction of Quantum Computation > Course Description**

**Course:** Introduction of Quantum Computation

**Course No.:** 3712100130

**Credit / Course Hours:** 2/32

**Preparatory Course:** Linear Algebra, Probability Theory

**Course Description:**

Quantum computing is a new parallel computing model using quantum superposition states. Compared with classical algorithm, quantum algorithm has significantly accelerated effect on many questions, such as factoring large numbers, unstructured database searching, solving linear systems of equations. Due to strong computing power and broad application prospects, quantum computing has already given rise to a worldwide research boom. In this course, students will learn basic concepts on quantum computing, development status and the quantum circuit model. Furthermore, students will grasp some typical algorithms through this course, include Shor algorithm, Grover algorithm, HHL algorithm, and a variety of quantum algorithms used in numerical computing and machine learning.