BEIJING NORMAL-HONG KONG BAPTIST UNIVERSITY

Faculty of Science and Technology

Minor Programme in

Computer Science and Technology

2025-2026

Contents

1. General Information

1.1. Programme Title

Minor Programme in Computer Science and Technology
计算机科学与技术副修

1.2. Academic Unit Involved in the Delivery of the Programme

The Programme is to be offered by the Computer Science and Technology (CST) Programme, under the Faculty of Science and Technology.

1.3. Rationale of the Minor Programme

There are two main purposes for the Minor Programme in Computer Science and Technology. First, the Minor Programme would empower students with technical computer skills in the students' own major programme of studies. The use of technology has permeated into every academic field. Every programme emphases computer literacy and IT skills, but this usually involves learning to use popular computer softwares. With the Minor Programme, students can engage in a higher level of learning and research beyond the mere use of popular softwares. Second, the Minor Programme would well prepare students for the work place. In our technologically permeated society, there is a great demand for CST graduates. This demand is not only for the "hard core" CST majors, but also for those in business, humanities and arts who want to be knowledgeable in computer science so that they can communicate and work with customers, technical experts, managers etc. The Minor Programme seeks to provide students with such technical skill.

1.4. Programme Aims, Objectives and Intended Learning Outcomes.

The general aim of the Minor Programme in Computer Science and Technology is to provide students with a sound foundation on the concepts and practices of computer science and technology. The many facets of computer science and technology are constantly changing rapidly. What is important now may be obsolete tomorrow, and what will be important tomorrow may not even exist now. However the fundamental ideas, on which the different facets are built on, do not really change that much. We identify two areas as fundamental:

a) Computer Programming: How computers carry out tasks step-by-step
b) Database: How computers handles data

After studying these two basic areas, students in the Minor Programme can learn some of the many facets in computers science and technology.

Table 1 shows the Programme Intended Learning Outcomes (PILOs) of the Minor Programme. Table 2 delineates the alignment of the PILOs with the Graduate Attributes (GAs) of BNBU.

Table 1: Programme Intended Learning Outcomes (PILOs)

Upon successful completion of the Minor Programme, students should be able to:	
PILO 1	**Analyse** the most basic principles of Computer Science and technology.

PILO 2	**Design** and **develop** simple software.
PILO 3	**Collaborate** in computer science or technology team projects to sharpen communication and interpersonal skills.

Table 2: Mapping of the Programme Intended Learning Outcomes (PILOs) with the Graduate Attributes (GAs)

PILOs	**Graduate Attributes**							**No. of Gas addressed by this PILO**
	Citizen-ship	Know-ledge	Learn-ing	Skills	Creati-vity	Communi-cation	Team-work	
PILO 1		X	X	X				**3**
PILO 2		X	X	X				**3**
PILO 3					X	X	X	**3**
No. of PILOs addressing this GA	**0**	**2**	**2**	**2**	**1**	**1**	**1**	**---**

1.5. Medium of Instruction

The medium of instruction for the Programme is English.

1.6. Target Students

The targeted students are BNBU students who have some mathematical and computer programming background but want to strengthen themselves in computer science. Students from AI, CST and DS are not allowed.

1.7. Year of Implementation

The Minor Programme in Computer Science and Technology has been offered since the Academic Year of 2019-2020.

2. Programme Requirements and Structure

2.1. Programme Requirements

Students can claim the Minor Programme in Computer Science and Technology if they can fulfil the following criteria:

a) Complete 15 units in accordance with the stipulated programme structure; and
b) Attain a minimum cumulative GPA of 2.0 for all the 5 courses (i.e. 3 compulsory courses and 2 elective courses).

2.2. Programme Structure

This Minor Programme consists of 3 compulsory courses followed by 2 electives. The Programme is summarized in Table 3, in which at least two courses shall be at level 3 or above.

Table 3: Curriculum Structure of the Minor Programme in Computer Science and Technology

Code	Title	Units	Level	PILO	Pre-requisite(s)
Compulsory Courses					
COMP2013	Object-Oriented Programming	3	2	1, 2	Nil
COMP2003	Data Structures and Algorithms	3	2	1, 2	COMP1013 or GCIT1013 or COMP1023 or COMP2013 or STAT2043 or COMP3153
COMP3013	Database Management Systems	3	3	1, 3	COMP1023 or COMP2013 or COMP3153
Elective Courses					
COMP3023	Design and Analysis of Algorithms	3	3	1, 2	AI2003 or COMP2003 or COMP3283
COMP3173	Compiler Construction	3	3	1, 3	COMP1013 or GCIT1013 or COMP1023 or STAT2043 or COMP3153 or COMP2013
COMP4043	Data Mining and Knowledge Discovery	3	4	1	COMP3013 or EBIS3003
DS4023	Machine Learning	3	4	1, 2	COMP1013 or GCIT1013 or COMP1023 or COMP2013 or STAT2043 or COMP3153
MATH2003	Discrete Structures	3	2	1	Nil

Note:

a. Students from Applied Mathematics Programme and Financial Mathematics Programme do not take **COMP2003 Data Structures and Algorithms**. They are required to take **COMP3023 Design and Analysis of Algorithms** and one more elective course.

b. Students from e-Business Management and Information Systems Programme do not take **COMP3013 Database Management Systems**. They are required to take one more elective course.