

(For students admitted in 2017-18 under the 4-year degree)

## BSc in Computer Science

This BSc program in Computer Science is designed for students who wish to graduate with a BSc degree with two majors. It is not intended to lead to a standalone BSc degree in Computer Science. When enrolling in this BSc program in Computer Science, students are expected to declare study in another BSc major at the same time. By completing the requirements of both BSc degrees, they will receive a BSc degree with two majors upon graduation.

To enroll in this program (whether as first major or additional major), students are expected to have a CGA of 3.7 or above and have a feasible study plan to complete the two BSc majors concerned within the normal duration of study. Applicants with lower qualifications are also encouraged to apply and will be considered on individual basis.

In addition to the requirements of their major programs, students are required to complete the University requirements for graduation. For details please refer to the respective section on this website.

Some courses can be used to fulfill both Major and University Common Core Requirements. Students may reuse a maximum of 6 credits of these courses to count towards both Requirements.

### Major Requirements

#### Engineering Fundamental Course(s)

|      |       |  | Credit(s)<br>attained |
|------|-------|--|-----------------------|
| COMP |       | Note: COMP 1021 <u>OR</u> COMP 1022P <u>OR</u> COMP 1022Q  | 3                     |
| COMP | 1021  | Introduction to Computer Science   | 3                     |
| COMP | 1022P | Introduction to Computing with Java  | 3                     |
| COMP | 1022Q | Introduction to Computing with Excel VBA   | 3                     |
| ENGG | 1010  | Academic Orientation   | 0                     |
| LANG | 2030  | Technical Communication I  | 3                     |
| MATH |       | Note: [(MATH 1012 <u>OR</u> MATH 1013 <u>OR</u> MATH 1023) <u>AND</u> (MATH 1014 <u>OR</u> MATH 1024)] <u>OR</u> [MATH 1020] | 4-7                   |
| MATH | 1012  | Calculus IA  | 4                     |
| MATH | 1013  | Calculus IB  | 3                     |
| MATH | 1014  | Calculus II  | 3                     |
| MATH | 1020  | Accelerated Calculus   | 4                     |
| MATH | 1023  | Honors Calculus I  | 3                     |
| MATH | 1024  | Honors Calculus II   | 3                     |
| MATH | 2111  | Matrix Algebra and Applications  | 3                     |

## Required Course(s)

|                    |       |   | <b>Credit(s)<br/>attained</b> |
|--------------------|-------|---|-------------------------------|
| COMP               |       | Note: (COMP 2011 <u>AND</u> COMP 2012) <u>OR</u> COMP 2012H   | 5-8                           |
| COMP               | 2011  | Introduction to Object-oriented Programming   | 4                             |
| COMP               | 2012  | Object-Oriented Programming and Data Structures   | 4                             |
| COMP               | 2012H | Honors Object-Oriented Programming and Data Structures  | 5                             |
| COMP               | 2611  | Computer Organization   | 4                             |
| COMP               |       | Note: COMP 2711 <u>OR</u> COMP 2711H  | 4                             |
| COMP               | 2711  | Discrete Mathematical Tools for Computer Science  | 4                             |
| COMP               | 2711H | Honors Discrete Mathematical Tools for Computer Science   | 4                             |
| COMP               |       | Note: COMP 3111 <u>OR</u> COMP 3111H  | 4                             |
| COMP               | 3111  | Software Engineering  | 4                             |
| COMP               | 3111H | Honors Software Engineering   | 4                             |
| COMP               | 3511  | Operating Systems   | 3                             |
| COMP               |       | Note: COMP 3711 <u>OR</u> COMP 3711H  | 3-4                           |
| COMP               | 3711  | Design and Analysis of Algorithms   | 3                             |
| COMP               | 3711H | Honors Design and Analysis of Algorithms  | 4                             |
| COMP               |       | Note: Students are required to take COMP 4900 for every regular term in which they are in residency at HKUST with major in COSC | 0                             |
| COMP               | 4900  | Academic and Professional Development   | 0                             |
| ELEC/IELM/<br>MATH |       | Note: ELEC 2600 <u>OR</u> IELM 2510 <u>OR</u> MATH 2411 <u>OR</u> MATH 2421 <u>OR</u> MATH 2431                                 | 4                             |
| ELEC               | 2600  | Probability and Random Processes in Engineering   | 4                             |
| IELM               | 2510  | Engineering Probability and Statistics  | 4                             |
| MATH               | 2411  | Applied Statistics  | 4                             |
| MATH               | 2421  | Probability   | 4                             |
| MATH               | 2431  | Honors Probability  | 4                             |
| LANG               | 4030  | Technical Communication II for CSE & CPEG   | 3                             |

## Elective(s)

|      |  |   | <b>Minimum<br/>credit(s)<br/>required</b> |
|------|--|---|---|
| COMP |  | COMP 2000-level or above Electives (6 courses) [With approval by the Dean or the Dean's designate, students may use up to 3 computer science related courses (9 credits) offered by non-CSE department(s) to count towards this requirement.] | 18  |