BSc in Computer Science

This program of study is designed for students who wish to pursue their study in computer science but wish to graduate with additional major(s). Students enrolling in the program as their first major are expected to simultaneously declare study in an additional major. Alternatively, students who are already enrolled in a different first major may declare this program as an additional major.

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 all the requirements for the degree and additional major(s) concerned within the normal duration of study. Applicants with lower qualifications are also encouraged to apply and will be considered on an 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.

Students may use no more than 6 credits earned from courses offered in self-paced online delivery mode to satisfy the graduation requirements of a degree program. This 6-credit limit does not apply to credits obtained through the credit transfer procedures of the University.

For students graduating with an additional major, they must take all the requirements specified for that major, within which they must complete at least 20 single-counted credits. These 20 credits cannot be used to fulfill any other requirements for graduation except for the 120-credit degree requirement.

Under the new 30-credit Common Core Program which is applicable to students admitted to the University in 2022-23 and thereafter, courses that have been counted towards Major Requirements are not allowed to be reused for fulfillment of the University Common Core Requirements. Students should look up the details of the Common Core Program including the general and School/program-specific distributional requirements posted on the Common Core website where the link to it is available on this website.

Major Requirements

Engineering Fundamental Course(s)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit(s) attained</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 1021</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>COMP 1022P</td>
<td>Introduction to Computing with Java</td>
<td>3</td>
</tr>
<tr>
<td>LANG 2030</td>
<td>Technical Communication I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1012</td>
<td>Calculus IA</td>
<td>4-7</td>
</tr>
<tr>
<td>MATH 1013</td>
<td>Calculus IB</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1014</td>
<td>Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1020</td>
<td>Accelerated Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1023</td>
<td>Honors Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1024</td>
<td>Honors Calculus II</td>
<td>3</td>
</tr>
</tbody>
</table>
School of Engineering - BSc in Computer Science

MATH 2111 3 Matrix Algebra and Applications
MATH 2121 4 Linear Algebra
MATH 2131 4 Honors in Linear and Abstract Algebra I

Required Course(s)

COMP 2011 4 Programming with C++
COMP 2012 4 Object-Oriented Programming and Data Structures
COMP 2012H 5 Honors Object-Oriented Programming and Data Structures
COMP 2611 4 Computer Organization
COMP 2711 4 Discrete Mathematical Tools for Computer Science
COMP 2711H 4 Honors Discrete Mathematical Tools for Computer Science
COMP 3111 4 Software Engineering
COMP 3111H 4 Honors Software Engineering
COMP 3511 3 Operating Systems
COMP 3711 4 Design and Analysis of Algorithms
COMP 3711H 4 Honors Design and Analysis of Algorithms
COMP 4900 0 Academic and Professional Development
ELEC/IEDA/ISOM/MATH 2600 4 Probability and Random Processes in Engineering
ELEC 2600H 4 Honors Probability and Random Processes in Engineering
IEDA 2520 3 Probability for Engineers
IEDA 2540 3 Statistics for Engineers
ISOM 2500 3 Business Statistics
MATH 2411 4 Applied Statistics
MATH 2421 4 Probability
MATH 2431 4 Honors Probability
LANG 4030 3 Technical Communication II for CSE, CPEG & DSCT

Note: Students are required to take COMP 4900 for every regular term in which they are in residency at HKUST with major in COSC.

Note: COMP 2011 AND COMP 2012 OR COMP 2012H
Note: COMP 2711 OR COMP 2711H
Note: COMP 3111 OR COMP 3111H
Note: COMP 3711 OR COMP 3711H
Note: ELEC 2600 OR ELEC 2600H OR IEDA 2520 OR IEDA 2540 OR ISOM 2500 OR MATH 2411 OR MATH 2421 OR MATH 2431

Credit(s) attained
Elective(s)

COMP 2000-level or above Electives [Any 6 courses of the subject and level as specified. For students who have taken the 6-credit course COMP 4981 or COMP 4981H to fulfill this elective requirement, the minimum number of courses required to satisfy this requirement may be reduced by one. 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.]