

## Curriculum for BEng in Computer Science

Two program sequences, namely Sequence A and Sequence B, are designed to take care of students admitted with varying mathematics background. Sequence A is intended for students with AL Mathematics background, while Sequence B is for those without AL Mathematics background who are required to take an additional mathematics course.

### Major Program Requirements

#### Core courses

	COMP 104	Programming Fundamentals and Methodology	[3-1-2:4]
	COMP 151	Object-Oriented Programming	[3-0-2:3]
(1)	COMP 170	Discrete Mathematical Tools for Computer Science	[3-1-0:4]
	COMP 171	Data Structures and Algorithms	[3-2-0:3]
	COMP 180	Computer Organization	[3-0-1:3]
	COMP 251	Principles of Programming Languages	[3-0-1:3]
	COMP 252	Operating Systems	[3-0-2:3]
	COMP 271	Design and Analysis of Algorithms	[3-1-0:3]
	IELM 311	Engineers in Society	[1-0-0:1]

#### For Sequence B:

	MATH 021	Concise Calculus	[3-1-0:4]
--	----------	------------------	-----------

#### Required courses

(2)	COMP 099	Industrial Training	[0 credit]
	COMP 211	Introduction to Software Engineering	[3-1-1:4]
	COMP 397	Final Year Project I	[0-0-9:3]
	COMP 398	Final Year Project II	[0-0-12:4]
	ELEC 101	Basic Electronics	[3-1-3:4]
	MATH 100	Introduction to Multivariable Calculus	[2-1-0:2]
	MATH 113	Introduction to Linear Algebra	[2-1-0:2]
	MATH 144	Applied Statistics	[3-1-0:4]

#### Elective courses

	Elective types		Minimum no. of courses	Minimum total credits
(3,5)	COMP	Computer Science Elective	5	15
(3,5)	[ or ELEC or MATH	COMP Computer Science Elective	2	6
		ELEC Electrical and Electronic Engineering Elective		
		MATH Mathematics Elective		
(4,5)	ENGG	Engineering Elective	1	3
(6)	SB&M	Business and Management Elective	1	3
(6)	FREE	Free Elective		
		For Sequence A	-	9
		For Sequence B	-	5

### General Education Requirements

Electives must be selected from amongst those general education courses that are listed under the section "Designated General Education Courses".

	Elective types		Minimum no. of courses	Minimum total credits
(6,7)	[ or GEE(SB&M) or GEE(H&SS)	GEE(SCIE) Science General Education Elective	-	12
		GEE(SB&M) Business and Management General Education Elective		
		GEE(H&SS) Humanities and Social Science General Education Elective		
		GEE(H&SS) Humanities and Social Science General Education Elective		

### Required Courses in English Communication

	LANG 106	English for Engineering Students I	[0-2-0:1]
	LANG 206	English for Engineering Students II	[0-2-0:1]
	LANG 306	English for Engineering Students III	[0-2-0:1]

### Other Requirements

	COMP 001	Academic and Professional Development I	[0 credit]
	COMP 002	Academic and Professional Development II	[0 credit]
	COMP 003	Academic and Professional Development III	[0 credit]
(8)	HLTH 001	Healthy Life Style	[0 credit]

#### Notes:

- (1) With prior approval from the COMP UG Coordinator, students may take MATH 132 to fulfill the requirement of COMP 170.
- (2) Students are required to complete and pass a prescribed training program within the normal length of study. Details of the program, its requirements and schedule will be announced on the website of the Industrial Training Center (<http://www.ust.hk/itc>) or website of the department in the first year Fall Semester. Training normally takes place in the Winter and Summer Sessions starting from the first year of study. For recording the overall training results, students are normally registered for the course in their last semester of study.

- (3) COMP 101, COMP 102 and COMP 103 cannot be used to count toward the COMP elective requirement. At least twelve credits must be at 200-level or higher, among which at least six credits must be at 300-level or higher. ELEC and MATH electives must be at 100-level or higher. Students on the COMP honors track may earn one extra credit through taking COMP 151H or COMP 271H in replacement of COMP 151 and COMP 271 respectively. Students who have earned a total of 3 extra credits through taking COMP 151H, COMP 271H, COMP 190, COMP 290 or COMP 390 may reduce the COMP elective requirements by one course and three credits.
- (4) All COMP and certain courses cannot be used to count toward the ENGG elective requirement. Students must check the departmental website at <http://www.cs.ust.hk/ug/faq-registration/> for the list of courses in concern.
- (5) ENGG 351 and ENGG 395 can be used to count toward the COMP, ENGG or FREE elective requirement.
- (6) Certain courses cannot be used to count toward the SB&M, GEE or FREE elective requirements. Students must check the departmental web site at <http://www.cs.ust.hk/ug/faq-registration/> for the list of courses in concern.
- (7) Of these courses, at least one course in Humanities and one in Social Science are required. SOSC 111 is a recommended elective.
- (8) Students are required to take and pass this course in their first year of study. Details of the course and its requirements are announced on the course website <http://www.ab.ust.hk/sao/HLTH001> managed by the Student Affairs Office.

A minimum of 101 credits is required for the BEng program in Computer Science.

### Recommended Pattern of Study for BEng in Computer Science – Sequence A

1st year	Fall	C COMP 104, COMP 170 R COMP 001, ELEC 101, HLTH 001, LANG 106, MATH 113 E GEE	(Total: 17 credits)
	Spring	C COMP 151, COMP 171, COMP 180 R COMP 001, HLTH 001, LANG 106, MATH 100 E FREE, GEE	(Total: 18* credits)
2nd year	Fall	C COMP 251, COMP 252, COMP 271 R COMP 002, LANG 206, MATH 144 E GEE	(Total: 16 credits)
	Spring	R COMP 002, COMP 211, LANG 206 E two COMP/ELEC/MATH, ENGG, FREE	(Total: 17* credits)
3rd year	Fall	C IELM 311 R COMP 003, COMP 397, LANG 306 E three COMP, SB&M	(Total: 16 credits)
	Spring	R COMP 003, COMP 099, COMP 398, LANG 306 E two COMP, GEE, FREE	(Total: 17* credits)

\* LANG 106, LANG 206 and LANG 306 are two-semester courses. The course credit (1 credit) will be earned on completion of the courses at the end of the respective Spring Semester.

C = core course; R = required course; E = elective course

### Recommended Pattern of Study for BEng in Computer Science – Sequence B

1st year	Fall	C COMP 104, COMP 170, MATH 021 R COMP 001, ELEC 101, HLTH 001, LANG 106	(Total: 16 credits)
	Spring	C COMP 151, COMP 171, COMP 180 R COMP 001, HLTH 001, LANG 106, MATH 113 E GEE, FREE	(Total: 18* credits)
2nd year	Fall	C COMP 251, COMP 252, COMP 271 R COMP 002, LANG 206, MATH 144 E GEE	(Total: 16 credits)
	Spring	R COMP 002, COMP 211, LANG 206, MATH 100 E two COMP/ELEC/MATH, ENGG, GEE	(Total: 19* credits)
3rd year	Fall	C IELM 311 R COMP 003, COMP 397, LANG 306 E three COMP, SB&M	(Total: 16 credits)
	Spring	R COMP 003, COMP 099, COMP 398, LANG 306 E two COMP, GEE, FREE	(Total: 16* credits)

\* LANG 106, LANG 206 and LANG 306 are two-semester courses. The course credit (1 credit) will be earned on completion of the courses at the end of the respective Spring Semester.

C = core course; R = required course; E = elective course