

(For students admitted in 2025-26 under the 4-year degree)

## BEng in Artificial Intelligence

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 9 credits earned from courses offered in self-paced online delivery mode to satisfy the graduation requirements of a degree program. This 9-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 fulfilment 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)

			Credit(s) attained
COMP	1023	Introduction to Python Programming	3
MATH		Note: [(MATH 1013 <u>OR</u> MATH 1023) <u>AND</u> (MATH 1014 <u>OR</u> MATH 1024)] <u>OR</u> [MATH 1020]	4-6
	MATH 1013	Calculus I	3
	MATH 1014	Calculus II	3
	MATH 1020	Accelerated Calculus	4
	MATH 1023	Honors Calculus I	3
	MATH 1024	Honors Calculus II	3
MATH		Note: MATH 2121 <u>OR</u> MATH 2131	4
	MATH 2121	Linear Algebra	4
	MATH 2131	Honors in Linear and Abstract Algebra I	4

#### Required Course(s)

			Credit(s) attained
COMP	1944	Artificial Intelligence Ethics	3
COMP		Note: [COMP 1991 <u>AND</u> (COMP 4981 <u>OR</u> COMP 4981H)] <u>OR</u> [COMP 4910]	6
	COMP 1991	Industrial Experience	0
	COMP 4910	Co-op Program	6
	COMP 4981	Final Year Project	6
	COMP 4981H	Final Year Thesis	6

COMP		Note: (COMP 2011 <u>AND</u> COMP 2012) <u>OR</u> COMP 2012H	5-8
COMP	2011	Programming with C++	4
COMP	2012	Object-Oriented Programming and Data Structures	4
COMP	2012H	Honors Object-Oriented Programming and Data Structures	5
COMP	2211	Introduction to Artificial Intelligence	3
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	3211	Learning, Reasoning, and Decision Making in AI	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	4211	Machine Learning	3
COMP		Note: COMP 4221 <u>OR</u> COMP 4471	3
COMP	4221	Introduction to Natural Language Processing	3
COMP	4471	Deep Learning in Computer Vision	3
COMP		Note: Students are required to take COMP 4900 for every regular term in which they are in residency at HKUST with major in AI	0
COMP	4900	Academic and Professional Development	0
MATH	2411	Applied Statistics	4

## Elective(s)

			<b>Minimum credit(s) required</b>
COMP		COMP Electives (6 courses from the specified elective list, of which at least 4 courses should be taken from Artificial Intelligence area and at least 2 courses from Other COMP area.)	18
Artificial Intelligence Area			
COMP	3212**	Intelligent Software Engineering	3
COMP	3213**	Introduction to Generative Artificial Intelligence	3
COMP	3214**	Introduction to Automated Machine Learning	3
COMP	3231**	Artificial Intelligence for Healthcare	3
COMP	4222	Machine Learning with Structured Data	3
COMP	4321	Search Engines for Web and Enterprise Data	3
COMP	4331	Data Mining	3
COMP	4332	Big Data Mining and Management	3
COMP	4421	Image Processing	3
COMP	4441	Music Video Creation	3
COMP	4451	Game Programming	3
COMP	4461	Human-Computer Interaction	3

COMP	4462	Data Visualization	3
COMP	4531	IoT and Smart Sensing	3
COMP	4551	Large-Scale Machine Learning System for Foundation Models	3
COMP	4641	Social Information Network Analysis and Engineering	3
COMP	4651	Cloud Computing and Big Data Systems	3
COMP	4901B	Large Language Models	3
COMP	5211	Advanced Artificial Intelligence	3
COMP	5214	Advanced Deep Learning Architectures	3

Other COMP Area

COMP	3021	Java Programming	3
COMP	3031	Principles of Programming Languages	3
COMP	3111	Software Engineering	4
COMP	3111H	Honors Software Engineering	4
COMP	3311	Database Management Systems	3
COMP	3511	Operating Systems	3
COMP	3631	Cryptography	3
COMP	3633	Competitive Programming in Cybersecurity II	2
COMP	3721	Theory of Computation	3
COMP	4021	Internet Computing	3
COMP	4411	Computer Graphics	3
COMP	4521	Mobile Application Development	3
COMP	4611	Design and Analysis of Computer Architectures	3
COMP	4621	Computer and Communication Networks	3
COMP	4632	Practicing Cybersecurity: Attacks and Counter-measures	3
COMP	4633	Competitive Programming in Cybersecurity III	2
COMP	4634	Cybersecurity	3
COMP	4911	IT Entrepreneurship	3
COMP	5111	Fundamentals of Software Analysis	3
COMP	5711	Introduction to Advanced Algorithmic Techniques	3

**\*\*Remarks on course(s):**

- COMP 3212: This is a new course subject to approval.
- COMP 3213: This is a new course subject to approval.
- COMP 3214: This is a new course subject to approval.
- COMP 3231: This is a new course subject to approval.