

6224

BASc(Applied AI)

Bachelor of Arts & Sciences

Applied Artificial Intelligence



Orientation





Welcome to HKU !

2023



#21 World #5 Asia #1 HK HKU

#49 World #9 Asia #2 HK Statistics & OR

2023



#84 World #16 Asia #3 HK Mathematics

#61 World #14 Asia #3 HK Computer Science

by subject

#14 World #4 Asia #1 HK Architecture

#13 World #2 Asia #1 HK Geography

#36 World #3 Asia #1 HK Psychology

Big data optimization

Scientific computation

Risk management

Game theory

Financial and actuarial applications

Operational research

High-dimensional data analysis

Statistical learning

Time series forecasting

Speech/NLP/Text analytics

DNA profiling, forensic statistics

Statistical learning

Transportation

Robotics

Information security

Machine/Deep learning

Computer vision

GIS

Neuropsychology





• Your Degree

Bachelor of Arts and Sciences in Applied Artificial Intelligence

BASc (AppliedAI)

Teachers of the programme core from



✓ 4 faculties

✓ 6 departments

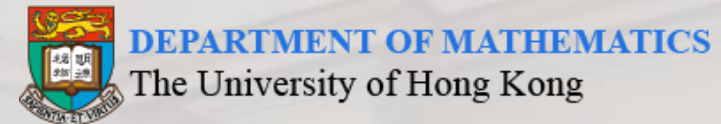
- *Statistics, Mathematics, Computer Science,*
- *Philosophy, Urban Planning and Design,*
- *Psychology*



✓ Plus many other teachers via *BASc Horizontal Courses*

✓ & free elective courses and

✓ Degree hosts: *Department of Statistics & Actuarial Science*
✓ *and Department of Mathematics of Faculty of Science*





• First Year Experience



<https://www.fye.hku.hk/>

Must know office:



Centre of Development and Resources for Students





hku.hk/science → www.scifac.hku.hk

Current Students -> [About the Programmes]
Useful Resources -> Handbooks



About Us Prospective Students **Current Students** Research Knowledge Exchange Public Engagement Alumni News Events



Home > Current Students > Undergraduate Programmes >

About the programmes ▲

- Academic Matters
- Student Experiential Learning and Enrichment Opportunities
- Useful Resources**
- Articulation Pathways
- News

UNDERGRADUATE PROGRAMMES



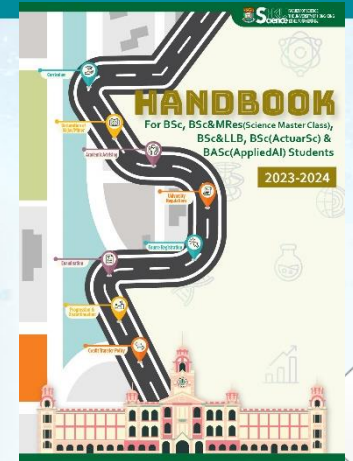
Bachelor of Science



Bachelor of Science (Actuarial Science)



Bachelor of Arts and Sciences (Applied Artificial Intelligence)





hku.hk/science → www.scifac.hku.hk

Current Students -> [Bachelor of Arts and Sciences]

The screenshot shows the website for the Bachelor of Applied Artificial Intelligence (BASc(AppliedAI)) program. The page features a navigation menu at the top with links for 'About Us', 'Prospective Students', 'Current Students', 'Research', 'Knowledge Exchange', 'Public Engagement', 'Alumni', 'News', and 'Events'. Below the navigation is a banner image of two students looking at a laptop, with the text 'About the programmes' overlaid. The main content area includes a breadcrumb trail: 'Home > Current Students > Undergraduate Programmes > About the programmes > BASc(AppliedAI)'. The title 'BASc(APPLIEDAI)' is prominently displayed. Below the title is the section 'BASc(AppliedAI) Degree Curriculum', which contains the following text: 'The programme structure listed in the BASc(AppliedAI) syllabuses is compulsory and any course combination outside the programme structure will not be allowed. To complete the BASc(AppliedAI) curriculum, you are required to take 240 credits of courses normally spread over four years of full-time study. You should take 60 credits of courses in each year.' At the bottom of the page, there are four white boxes with blue text: 'Syllabuses', 'Graduation Requirements & Honours Classification', 'Degree Regulations', and 'University Regulations'. A speaker icon is located in the bottom right corner of the page.



Department of 統計及精算學系
Statistics & Actuarial Science
THE UNIVERSITY OF HONG KONG

Sydney
Science

HOME ABOUT US PEOPLE RESEARCH STUDY PROGRAMMES **CURRENT STUDENTS** NEWS & EVENTS CONTACT US

saasweb.hku.hk/

→ Current Students

→ [BASc AppliedAI]

Bachelor of Arts and Sciences in Applied Artificial Intelligence (BASc(AppliedAI))

› Courses

- Syllabuses & Regulations #

Inside "Check Course Details" you can type APAI, MATH, STAT in the "Course Code" box in order to view the list of all courses. *For reference only. The course schedule and venue may be subject to changes.

Students are strongly advised to double check the course schedule and venue on HKU Portal before going to the lectures.

- UG Timetable for 2022-23, 1st semester (Updated on September 20, 2022)*
- UG Timetable for 2022-23, 2nd semester (Updated on February 9, 2023)*

*For reference only. The course schedule and venue may be subject to changes.

Students are strongly advised to double check the course schedule and venue on HKU Portal before going to the lectures.

- COMP courses offered by Department of Computer Science
- APAI4766 Applied AI Internship

› For Freshmen

Students admitted in 2022

- Induction Day presentation (Updated on August 18, 2022)
- Induction Day video (Updated on August 18, 2020)
- BASc(AppliedAI) first year timetable 2022-23 (Updated on August 18, 2022)
- Notes on Course Selection for BASc(AppliedAI) Freshmen (Updated on January 12, 2023)
- Suggested BASc(AppliedAI) 4-year Curricular Structure (for students admitted in 2019, 2020, 2021 and 2022) (Updated on August 1, 2022)
- Structure of Courses for BASc(AppliedAI) (for students admitted in 2019, 2020, 2021 and 2022) (Updated on August 1, 2022)



Academic Dates Terminology

- **HKU: 1st Semester, 2nd Semester, Summer Semester**

- **Course selection period (till Aug. 24)**
- **Suspension period**
- **Add/drop period (first two weeks)**

- **Reading week**
- **Revision period**
- **Assessment period**

➤ Check the Faculty calendar:
https://www.scifac.hku.hk/f/page/4832/17644/Academic_Calendar_2023-2024.pdf

- **Lectures and Tutorials/Example Classes**

- **Important Academic Dates 2023-24**

➤ From Academic Advising and Scholarships Office (AASO):
<https://aas.hku.hk/important-academic-dates/>

THE UNIVERSITY OF HONG KONG Calendar for the Academic Year 2023-2024 (Provisional)

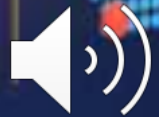
(for undergraduate and taught postgraduate students*)

	SUN	MON	TUE	WED	THUR	FRI	SAT		Week	
FIRST SEMESTER: SEP 1 - DEC 23, 2023										
SEP-23		3	4	5	6	7	8	9	10	1
		10	11	12	13	14	15	16	17	2
		17	18	19	20	21	22	23	24	3
		24	25	26	27	28	29	[30]		4
		1	[2]	3	4	5	6	7	8	5
OCT-23		8	9	10	11	12	13	14	15	6
		15	[16]	17	18	19	20	21	22	7(Reading)
		22	[23]	24	25	26	27	28	29	8
		29	30	31						9
NOV-23		5	6	7	8	9	10	11	12	10
		12	13	14	15	16	17	18	19	11
		19	20	21	22	23	24	25	26	12
		26	27	28	29	30				13
DEC-23		3	4	5	6	7	8	9	10	14(Revision)
		10	11	12	13	14	15	16	17	1
		17	18	19	20	21	22	23	24	2
		24	[25]	[26]	27	28	29	30	31	3
		[1]	2	3	4	5	6	7	8	Break
JAN-24		7	8	9	10	11	12	13	14	Break
		14	15	16	17	18	19	20	21	1
		21	22	23	24	25	26	27	28	2
		28	29	30	31					3
FEB-24		4	5	6	7	8	<9>	[10]	11	4
		11	[12]	[13]	14	15	16	17	18	5
		18	19	20	21	22	23	24	25	6
		25	26	27	28	29				7(Reading)
MAR-24		3	4	5	6	7	8	9	10	8
		10	11	12	13	14	15	(16)	17	9
		17	18	19	20	21	22	23	24	10
		24	25	26	27	28	[29]	[30]	31	11
APR-24		[1]	2	3	[4]	5	6	7	8	12
		7	8	9	10	11	12	13	14	13
		14	15	16	17	18	19	20	21	14
		21	22	23	24	25	26	27	28	15(Revision)
		28	29	30						
MAV-24		5	6	7	8	9	10	11	12	1
		12	13	14	[15]	16	17	18	19	2
		19	20	21	22	23	24	25	26	3
		26	27	28	29	30	31			Break
JUN-24		2	3	4	5	6	7	8	9	Break
		9	[10]	11	12	13	14	15	16	Break
		16	17	18	19	20	21	22	23	Break
		23	24	25	26	27	28	29	30	1
		30								
JUL-24		7	8	9	10	11	12	13	14	2
		14	15	16	17	18	19	20	21	3
		21	22	23	24	25	26	27	28	4
		28	29	30	31					5
AUG-24		4	5	6	7	8	9	10	11	6
		11	12	13	14	15	16	17	18	7
		18	19	20	21	22	23	24	25	8
		25	26	27	28	29	30	31		

[] General Holiday
 () University Holiday (Full Day)
 <-> University Holiday (afternoon only)
 Reading/Field Trip Week
 Revision Period
 Class Suspension Period for the Lunar New Year
 Assessment Period

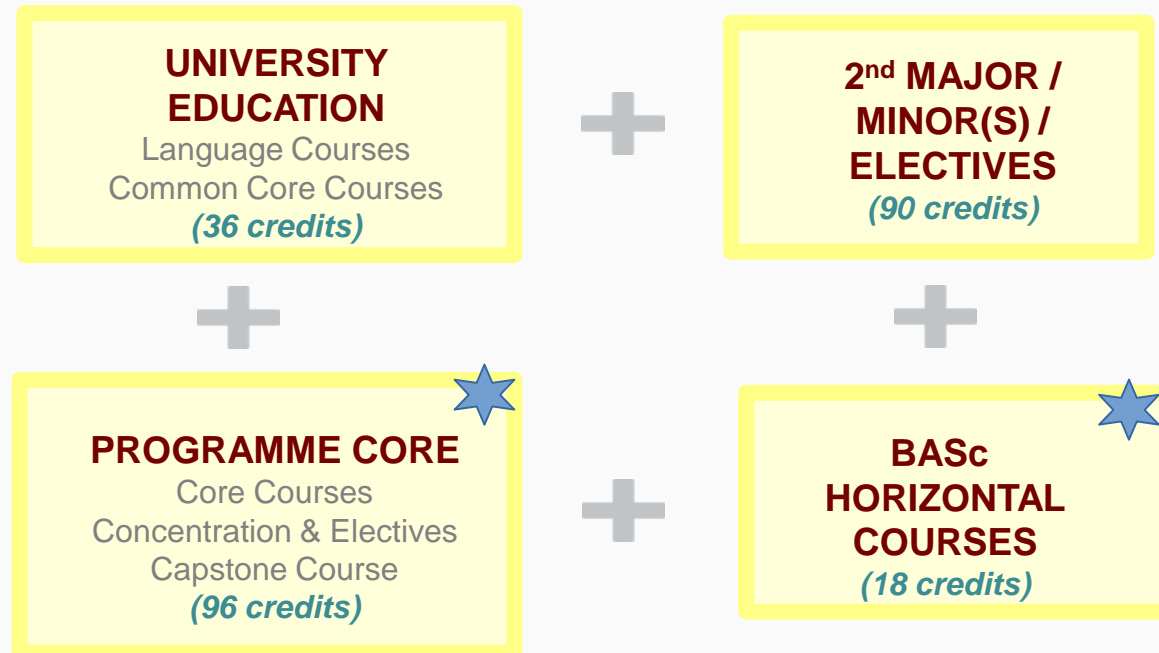


Curriculum Structure & Course Selection





Forty 6-credit courses spanning over 4 years of full-time study
(240 Credits)



Remarks:

- Programme Core: MUST take
- 1 course = 6 credits
- 1 semester = 30 credits = 5 courses
- Variations are possible (+ - credits)
- Total number of credits cannot exceed 288 credits



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AppliedAI

Programme Core Courses (96 credits)



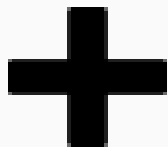
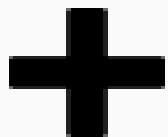
BASc
Bachelor of
Arts & Sciences

6224

BASc(AppliedAI) Curriculum*

Core Courses (66 credits)

APAI1001	Artificial intelligence: foundation, philosophy and ethics
COMP1117	Computer programming
COMP2119	Introduction to data structures and algorithms
COMP2120	Computer organization
COMP3340	Applied deep learning
MATH1013	University mathematics II
MATH2014	Multivariable calculus and linear algebra
MATH3904	Introduction to optimization
STAT2601	Probability and statistics I
STAT2602	Probability and statistics II
STAT3612	Statistical machine learning



Technology

Business and finance

Medicine

Smart city

Neurocognitive science

Concentration (24 credits)

(For fulfilling the requirement of a concentration, students should choose at least 18 credits, with at least 6 credits of which should be at advanced-level, from the corresponding list)

AI Technology

COMP3271	Computer graphics
COMP3356	Robotics
APAI3010	Image processing and computer vision
APAI4011	Natural language processing
APAI4012	High-performance computing
APAI4099	Special topics of applied AI

AI in Business and Finance

COMP3320	Electronic commerce technology
MATH3901	Operations research I
MATH3906	Financial calculus
STAT3613	Marketing analytics
STAT4601	Time-series analysis
APAI4099	Special topics of applied AI

AI in Medicine

STAT3655	Survival analysis
STAT4610	Bayesian learning
APAI3021	Modern biostatistics
APAI4022	Omics data analysis
APAI4023	Medical image analysis
APAI4099	Special topics of applied AI

AI in Smart City

URBS1003	Theories and global trends in urban development
URBS1005	Urban problems, interventions and design thinking
GEOG2090	Introduction to geographic information systems
GEOG3202	GIS in environmental studies
GEOG3420	Transport and society
APAI4099	Special topics of applied AI

AI in Neurocognitive Science

PSYC1001	Introduction to psychology
PSYC2007	Cognitive psychology
PSYC2051	Perception
PSYC2066	Foundations of cognitive science
PSYC2067	Seminars in cognitive science
APAI4099	Special topics of applied AI

Other Elective Courses

COMP3250	Design and analysis of algorithms
COMP3278	Introduction to database management systems
MATH3601	Numerical analysis
MATH3911	Game theory and strategy
MATH3943	Network models in operations research
STAT3600	Linear statistical analysis
STAT3622	Data visualization
STAT4602	Multivariate data analysis

Capstone Requirement (6 credits)

(If students take the 12-credit 'Applied AI project', they do not need to take a 6-credit elective course.)

At least 6 credits selected from the following courses:

APAI3799	Directed studies in applied AI
APAI4766	Applied AI internship
APAI4798	Applied AI project (12-credit)

Students are reminded to take 3 BASc core courses to fulfill the BASc core course requirement:

BASC9001	Approaching interdisciplinarity: Knowledge beyond disciplines;
DESN9002	Sustainable leadership; and
STAT1016#	Data Science 101

* The curriculum and course offering are subject to changes. Each course is 6-credit bearing unless otherwise stated.

Course code and course title to be confirmed.

BASc HORIZONTAL COURSES

(18 credits)



- ★ **BASC9001 Approaching Interdisciplinarity: Knowledge Beyond Disciplines**
- ★ **DESN9001 Leadership Beyond Borders**
- ★ **STAT1016 Data Science 101**



- Multidisciplinary training in leadership, design thinking
- Introduction to foundations of human knowledge and data science
- Networking with fellow students from other BASc programmes





Year	I		II		III		IV			
	One	Two	One	Two	One	Two	One	Two		
Disciplinary Core	APAI001 Artificial Intelligence: Foundation, Philosophy and Ethics COMP1117 Computer Programming MATH1013 University Mathematics II	STAT2601 Probability and Statistics I	COMP2119 Introduction to Data Structures and Algorithms MATH2014 Multivariable Calculus and Linear Algebra STAT2602 Probability and Statistics II	COMP2120⁵ Computer Organization	MATH3904 Introduction to Optimization STAT3612 Statistical Machine Learning	COMP3340⁶ Applied Deep Learning				
Other		COMP2113 Programming Technologies (Pre-requisite of COMP2119)		STAT3600⁴ Linear Statistical Analysis (Co-requisite/ Pre-requisite of STAT3612) (available in both semesters)						
BASc Core (in purple font) and Disciplinary Elective (in deep blue font)	BASC9001 Approaching Interdisciplinarity: Knowledge Beyond Disciplines	STAT1016 Data science 101 (admission: 2023 and thereafter)	DESN9002 Sustainable Leadership (admission: 2020 and thereafter)	At least 24 credits from the following courses in Lists A1-5 and B (For fulfilling the requirement of a concentration, students should choose at least 18 credits, with at least 6 credits of which should be at advanced-level, from the corresponding list): AI Technology (List A1) COMP3271 Computer Graphics COMP3356 Robotics APAI3010 Image Processing and Computer Vision APAI4011 Natural Language Processing APAI4012 High-Performance Computing APAI4099 Special Topics of Applied AI AI in Business and Finance (List A2) COMP3320 Electronic Commerce Technology MATH3901 Operations Research I MATH3906 Financial Calculus STAT3613 Marketing Analytics STAT4601 Time Series Analysis APAI4099 Special Topics of Applied AI AI in Medicine (List A3) STAT3655 Survival Analysis STAT4610 Bayesian Learning APAI3021 Modern Biostatistics						

Please check the link below for the Suggested Study Plan for 2023-24 in mid August:

<https://saasweb.hku.hk/current/aai.php>

→ Suggested BASc(AppliedAI) 4-year Curricular Structure





BASc(AppliedAI) First Year Timetable

THE UNIVERSITY OF HONG KONG
Suggested BASc(AppliedAI) First Year Timetable

2023-24 Semester 1	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:30 – 9:20 am						Common Core
9:30 – 10:20 am	MATH1013-A			MATH1013-A		
10:30 – 11:20 am	MATH1013-A					
11:30 – 12:20 pm			Common Core			
12:30 – 1:20 pm						
1:30 – 2:20 pm		BASC9001				
2:30 – 3:20 pm		BASC9001				
3:30 – 4:20 pm	APAI1001				APAI1001	
4:30 – 5:20 pm	APAI1001	COMP1117-A		MATH1013B		
5:30 – 6:20 pm	MATH1013B	COMP1117-A		MATH1013B	COMP1117-A	

Other courses to be taken:

- BASc(AppliedAI) students are required to complete 18 credits of BASc Core Courses as part of their graduation requirement. One of the required BASc Core Course to be taken in 1st semester is [BASC9001 Approaching Interdisciplinarity: Knowledge Beyond Disciplines](#)

Remarks:

- COMP1117: A no. of places are reserved in subclass A for BASc(AppliedAI) students. See the timeslots above.
- MATH1013: A no. of places are reserved in subclasses A and B for BASc(AppliedAI) students. See the timeslots above.

2023-24 Semester 2	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:30 – 9:20 am						Common Core
9:30 – 10:20 am						
10:30 – 11:20 am		STAT1016				
11:30 – 12:20 pm		STAT1016			STAT1016	
12:30 – 1:20 pm	STAT2601-B		Common Core	STAT2601-B	COMP2113-C	
1:30 – 2:20 pm	STAT2601-B				COMP2113-C	
2:30 – 3:20 pm						
3:30 – 4:20 pm						
4:30 – 5:20 pm					COMP2113-C	
5:30 – 6:20 pm				COMP2113-C		

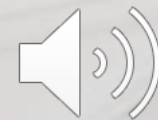
Other courses to be taken:

- BASc(AppliedAI) students are required to complete 18 credits of BASc Core Courses as part of their graduation requirement. One of the required BASc Core Course to be taken in 2nd semester is [STAT1016 Data science 101](#).

Please check the link below for the
First Year Timetable for 2023-24 in mid
August:

<https://saasweb.hku.hk/current/aai.php>

→ **BASc(AppliedAI) first year timetable**





Information & Supports



Career Support and Activities

- Centre of Development and Resources for Students (CEDARS)
(www.cedars.hku.hk)
- Departmental Internship/Job Online-application System
- Career Advising Programme (CAP)
 - ☺ Professional Preparation Programme (PPP)
 - ☺ Individual consultation on cover letter, CV and interview skills
 - ☺ Corporate Mentorship Programme (CMP)
 - ☺ Market information workshop
 - ☺ Firm visits and alumni sharing
 - ☺ SAAS Career Fair





Support for internships

Partner with Industrial Leaders

(in year 3 or year 4)

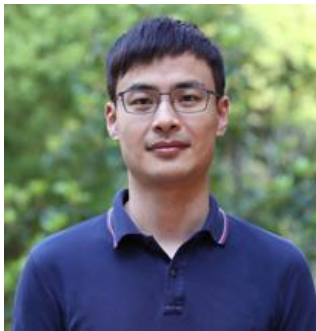


University Resources

- HKU Library (HKUL)
 - lib.hku.hk
- Examinations Office
 - www.exam.hku.hk
- Centre of Development and Resources for Students (CEDARS)
 - www.cedars.hku.hk
- Academic Advising and Scholarships Office (AASO)
 - aas.hku.hk
- University Health Service (UHS)
 - www.uhs.hku.hk
- Centre for Sports and Exercise
 - cse.hku.hk/



→ Programme Co-Directors



Dr. Lequan Yu
(Statistics, RRS 226)

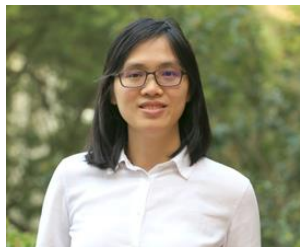


Prof. Patrick NG
(Mathematics, RRS 424)



Prof. Yizhou YU
CS Coordinator

→ Course Selection Advisers



Dr. Liangqiong QU
(RRS 121)



Dr. Yuenwen LEI
(RRS 319)



Dr. Zheng QU
(RRS 419)



Dr. Eric LI
(RRS 117)

Internship Adviser

Administration

General Office (RRS, 3rd floor)
 Department of Statistics & Actuarial Science

