6224
BASc(Applied AI)

Bachelor of Arts & Sciences
Applied Artificial Intelligence

Orientation

Welcome to HKU !

#17 World	#4 Asia	#1 HK	HKU
#25 World	#5 Asia	#2 HK	Data Science and AI
#50 World	#8 Asia	#2 HK	Statistics & OR
#60 World	#9 Asia	#2 HK	Mathematics
#52 World	#12 Asia	#3 HK	Computer Science & IS
#12 World	#3 Asia	#1 HK	Architecture & Built Environment
#14 World	#2 Asia	#1 HK	Geography
#34 World	#4 Asia	#1 HK	Psychology

2025 — QS WORLD UNIVERSITY RANKINGS

2024 — QS WORLD UNIVERSITY RANKINGS *by subject*

Big data optimization
Machine/Deep learning
Scientific computation
Statistical learning
Transportation
Risk management
Time series forecasting
Computer vision
Game theory
Speech/NLP/Text analytics
Robotics
Financial and actuarial applications
Information security
GIS
Operational research
DNA profiling, forensic statistics
High-dimensional data analysis
Neuropsychology

2

⚫ <u>Your Degree</u>

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

FYE
@HKU

https://firstyear.hku.hk/

Must know office: **CEDARS**

Centre of Development and Resources for Students

saasweb.hku.hk/

⟶ Current Students

→ [BASc AppliedAI]

We will update the content in due course, please check the link below in mid August:
https://saasweb.hku.hk/current/aai.php

❯ 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 2024-25, 1st semester (Updated on August 9, 2024)*

- UG Timetable for 2024-25, 2nd semester (Updated on August 9, 2024)*

  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 2024

- Induction Day presentation (Updated on August 16, 2023)

- BASc(AppliedAI) first year timetable 2024-25 (Updated on August 14, 2024)

- Notes on Course Selection for BASc(AppliedAI) Freshmen (Updated on August 16, 2024)

- Suggested BASc(AppliedAI) 4-year Curricular Structure (for students admitted in 2024) (Updated on August 14, 2024)

- Structure of Courses for BASc(AppliedAI) (Updated on August 14, 2024)

Academic Dates Terminology

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

- **Course selection period (till Aug. 26)**
- **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/4832/19445/Academic_Calendar_2024-2025.pdf
- **Lectures and Tutorials/Example Classes**

- **Important Academic Dates 2024-25**
- ➤ From Academic Advising and Scholarships Office (AASO):
  https://aas.hku.hk/important-academic-dates/

THE UNIVERSITY OF HONG KONG

Calendar for the Academic Year 2024-2025 (Provisional)

*(for undergraduate and taught postgraduate students**#)*

document 11

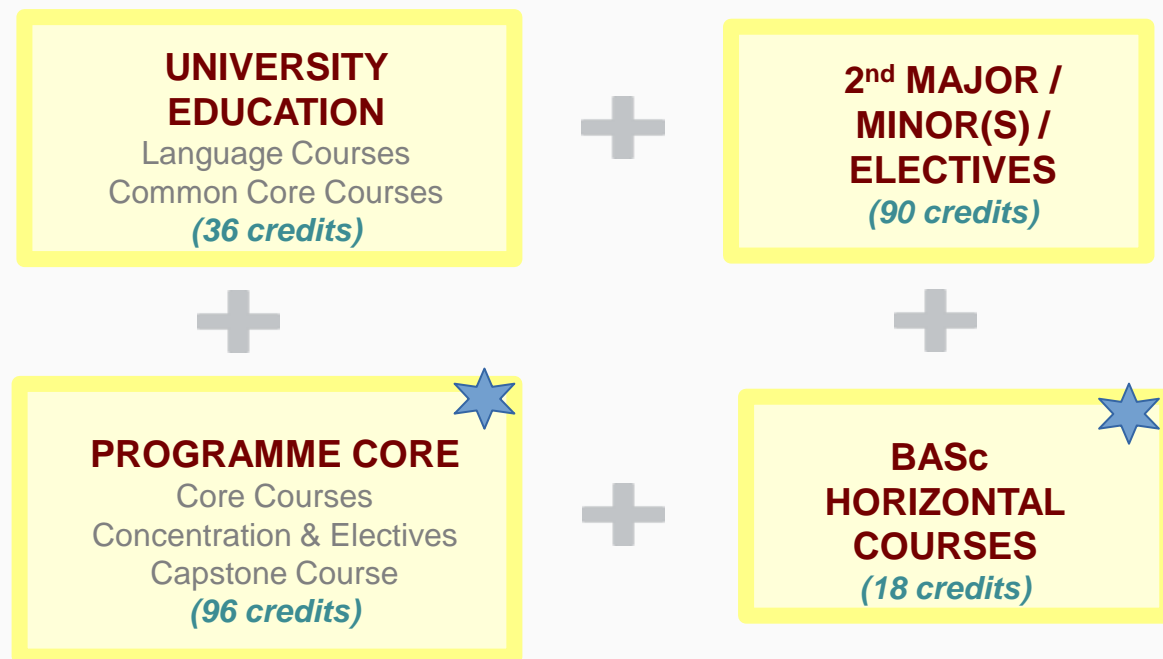|	SUN	MON	TUE	WED	THUR	FRI	SAT	FIRST SEMESTER: SEP 2 - DEC 23, 2024	Week
SEP-24	1	2	3	4	5	6	7	First Day of Teaching: Sep 2, 2024	1
	8	9	10	11	12	13	14		2
	15	16	17	[18]	19	20	21		3
	22	23	24	25	26	27	28		4
	29	30							5
OCT-24		[1]	2	3	4	5			6
	6	7	8	9	10	[11]	12		7(Reading)
	13	14	15	16	17	18	19	Reading/Field Trip Week: Oct 14 - 19, 2024	8
	20	21	22	23	24	25	26		9
	27	28	29	30	31				
NOV-24						1	2		10
	3	4	5	6	7	8	9		11
	10	11	12	13	14	15	16		12
	17	18	19	20	21	22	23		13
	24	25	26	27	28	29	30	Last Day of Teaching: Nov 30, 2024	14(Revision)
DEC-24	1	2	3	4	5	6	7	Revision Period: Dec 2 - 6, 2024	1
	8	9	10	11	12	13	14	Assessment Period: Dec 7 - 23, 2024	2
	15	16	17	18	19	20	21		3
	22	23	(24)	[25]	[26]	27	28		Break
	29	30	<31>						Break
JAN-25				[1]	2	3	4		Break
	5	6	7	8	9	10	11	SECOND SEMESTER: JAN 20 - MAY 27, 2025	Break
	12	13	14	15	16	17	18	First Day of Teaching: Jan 20, 2025	1
	19	20	21	22	23	24	25	Class Suspension Period for the Lunar New Year:	2
	26	27	<28>	[29]	[30]	[31]		Jan 29 - Feb 4, 2025	
FEB-25	2	3	4	5	6	7	1 8		
	9	10	11	12	13	14	15		3
	16	17	18	19	20	21	22		4
	23	24	25	26	27	28			5
MAR-25	2	3	4	5	6	7	1 8		6
	9	10	11	12	13	14	15	Reading/Field Trip Week: Mar 10 - 15, 2025	7(Reading)
	16	17	18	19	20	21	22		8
	23	24	25	26	27	28	29		9
	30	31							10
APR-25			1	2	3	[4]	5		11
	6	7	8	9	10	11	12		12
	13	14	15	16	17	[18]	[19]		13
	20	[21]	22	23	24	25	26		14
	27	28	29	30					
MAY-25					[1]	2	3	Last Day of Teaching: May 3, 2025	
	4	[5]	6	7	8	9	10	Revision Period: May 5 - 10, 2025	15(Revision)
	11	12	13	14	15	16	17	Assessment Period: May 12 - 27, 2025	1
	18	19	20	21	22	23	24		2
	25	26	27	28	29	30	[31]		3
JUN-25	1	2	3	4	5	6	7		Break
	8	9	10	11	12	13	14		Break
	15	16	17	18	19	20	21		Break
	22	23	24	25	26	27	28	OPTIONAL SUMMER SEMESTER	Break
	29	30						JUN 30 - AUG 23, 2025	1
JUL-25			[1]	2	3	4	5		2
	6	7	8	9	10	11	12		3
	13	14	15	16	17	18	19		4
	20	21	22	23	24	25	26		5
	27	28	29	30	31				
AUG-25						1	2		6
	3	4	5	6	7	8	9		7
	10	11	12	13	14	15	16		8
	17	18	19	20	21	22	23		
	24	25	26	27	28	29	30		
	31								

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

Curriculum Structure
&
Course Selection

General Structure

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

UNIVERSITY EDUCATION
Language Courses
Common Core Courses
(36 credits)

+

2nd MAJOR / MINOR(S) / ELECTIVES
(90 credits)

+

PROGRAMME CORE
Core Courses
Concentration & Electives
Capstone Course
(96 credits)

+

BASc HORIZONTAL COURSES
(18 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

Programme Core Courses ✦ (96 credits)

BASc Bachelor of Arts & Sciences

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

+

+AI

- Technology
- Business and finance
- Medicine
- Smart city
- Neurocognitive science

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.

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: algorithms and applications
	APAI4013	Applied high-performance computing and parallel programming
	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
	GEOG2147	Building smart cities with GIS
	GEOG2156	Understanding global environmental changes from images
	GEOG3202	GIS in environmental studies
	GEOG3420	Transport and society
	GEOG3430	Geospatial data for environmental change
	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
	COMP3251	Algorithm design
	COMP3252	Algorithm design and analysis
	COMP3278	Introduction to database management systems
	MATH3601	Numerical analysis
	MATH3600	Discrete mathematics
	MATH3911	Game theory and strategy
	MATH3943	Network models in operations research
	STAT3600	Linear statistical analysis
	STAT3622	Data visualization
	STAT4602	Multivariate data analysis

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

AI

SDS

D+

FT

GHD

Suggested Study Plan

BASc Bachelor of Arts & Sciences

Suggested / Example Structure of BASc(AppliedAI) Curriculum[1] (for students admitted in 2024)

Year	I		II		III		IV	
Semester	One	Two	One	Two	One	Two	One	Two
Disciplinary Core	**APAI1001** Artificial Intelligence: Foundation, Philosophy and Ethics **COMP1117** Computer Programming **MATH1013** University Mathematics II	**MATH2014** Multivariable Calculus and Linear Algebra **STAT2601** Probability and Statistics I	**COMP2119** Introduction to Data Structures and Algorithms **STAT2602** Probability and Statistics II	**COMP2120**[5] Computer Organization	**MATH3904** Introduction to Optimization **STAT3612** Statistical Machine Learning	**COMP3340**[6] Applied Deep Learning		
Other		**COMP2113** Programming Technologies (Pre-requisite of COMP2119)	**STAT3600**[4] 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) **(please also refer to the remarks below)**: **AI Technology** (List A1) COMP3271 — Computer Graphics COMP3356 — Robotics APAI3010 — Image Processing and Computer Vision APAI4011 — Natural Language Processing APAI4012 — High-performance computing: algorithms and applications APAI4013 — Applied high-performance computing and parallel programming APAI4099 — Special Topics of Applied AI **AI in Business and Finance** (List A2) COMP3320 — Electronic Commerce Technology MATH3901 — Operations Research I MATH3906 — Financial Calculus STAT3612 — Marketing Analytics				

Remark: As one of the graduation requirements, students must fulfill at least one of the five concentrations by completing at least 18 credits of courses prescribed specially for each corresponding concentration. Students may declare concentration(s) in their senior years of study (e.g. year 3 or 4), and are recommended to pursue (a) AI Technology, and if applicable, supplemented with a second concentration from (b) to (e). Upon graduation, a certification letter confirming the completion of the chosen concentration(s) will be provided for students.

Note 1: This table is for students' reference only for planning their studies ahead. Course offering semester and availability are subject to changes. Some courses are available in both semesters. Courses should be 6-credit bearing unless otherwise stated.

Note 2: Candidates who have achieved Level 5 or above in English Language in the Hong Kong Diploma of Secondary Education Examination (HKDSE), or equivalent, are exempted from taking "CAES1000 Core University English". Candidates who are not exempted from Core University English will be required to take CAES1000 as supplementary credits and will thereby be required to accumulate 246 credits for graduation from the University.

Note 3: If students take the 12-credit "Applied AI Project", they do not need to take a 6-credit elective from the "List of Other Elective Courses" (List B) above. On the other hand, students who do not take the 12-credit "Applied AI Project" are allowed to take a course in one of the Concentrations as an elective.)

Note 4: STAT3600 also appears in the "List of Other Elective Courses (List B)". It is counted towards the fulfillment of the 24-credit requirement (as stated above) of electives in the programme.

Note 5: Students may go for exchange in Year Two semester two and take the core course COMP2120 in Year Three or take a similar course overseas and transfer the credits back to HKU.

Note 6: Students plan to go for exchange in Year Three semester two should take COMP3340 in Year 2 semester two or take a similar course overseas and transfer the credits back to HKU.

Note 7: It is recommended that students opt for COMP3251 Algorithm design instead of COMP3252 Algorithm design and analysis when selecting elective courses between COMP3251 and COMP3252.

Please check the link below for the Suggested Study Plan for 2024-25 in mid August:
https://saasweb.hku.hk/current/aai.php
→ Suggested BASc(AppliedAI) 4-year Curricular Structure

BASc(AppliedAI)
First Year Timetable

6224 · AI AppliedAI · BASc Bachelor of Arts & Sciences

2024-25 Semester 1	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:30 – 9:20 am						Common Core
9:30 – 10:20 am	MATH1013-A			MATH1013-A		Common Core
10:30 – 11:20 am	MATH1013-A					Common Core
11:30 – 12:20 pm						
12:30 – 1:20 pm	APAI1001		Common Core	APAI1001		
1:30 – 2:20 pm	APAI1001	BASC9001	Common Core			
2:30 – 3:20 pm		BASC9001	Common Core			
3:30 – 4:20 pm		MATH1013C	Common Core		MATH1013C	
4:30 – 5:20 pm		COMP1117-A	Common Core	MATH1013B	MATH1013C	
5:30 – 6:20 pm	MATH1013B	COMP1117-A	Common Core	MATH1013B	COMP1117-A	

2024-25 Semester 2	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:30 – 9:20 am						Common Core
9:30 – 10:20 am	STAT2601-B			STAT2601-B		Common Core
10:30 – 11:20 am	STAT2601-B	STAT1016				Common Core
11:30 – 12:20 pm		STAT1016			STAT1016	
12:30 – 1:20 pm			Common Core		COMP2113-C	
1:30 – 2:20 pm			Common Core		COMP2113-C	
2:30 – 3:20 pm			Common Core			
3:30 – 4:20 pm		MATH2014	Common Core		MATH2014	
4:30 – 5:20 pm			Common Core	COMP2113-C	MATH2014	
5:30 – 6:20 pm			Common Core	COMP2113-C		

Please check the link below for the First Year Timetable for 2024-25 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)

SAAS Career Fair

Please check the email later for the information of SAAS Career Fair 2024
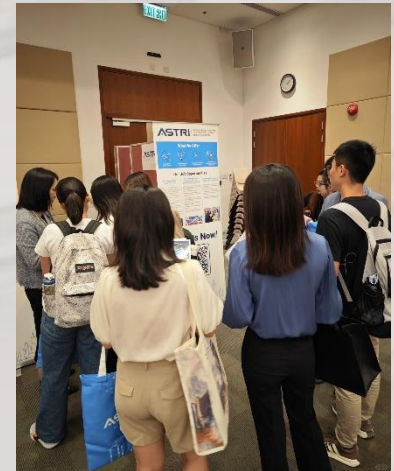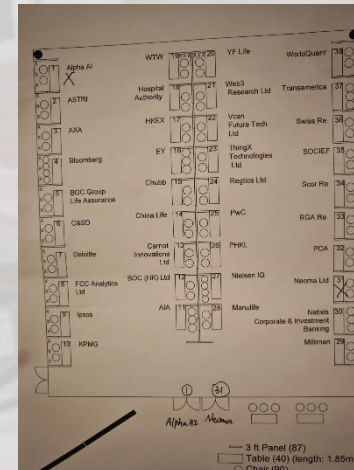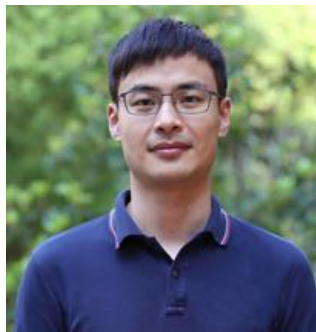
University Resources

- 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/
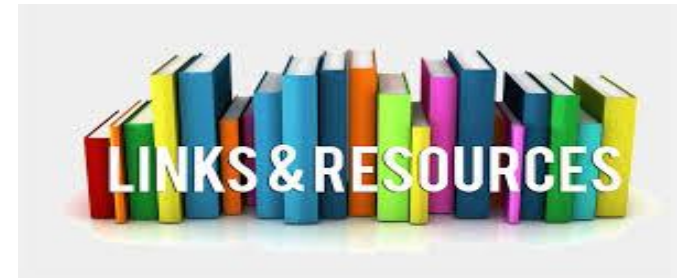
→ **Programme Co-Directors**
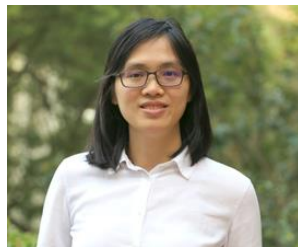
Dr. Lequan Yu
(Statistics, RRS 226)

Prof. Patrick NG
(Mathematics, RRS 424)

Prof. Yizhou YU
CS Coordinator

→ **Course Selection** Advisers

Internship Adviser

Dr. Liangqiong QU
(RRS 121)

Dr. Yuenwen LEI
(RRS 319)

Dr. Eric LI
(RRS 117)

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

Regulations on Discontinuation

Progression and Discontinuation

The Faculty stresses the importance of the academic performance of students. Students who do not perform satisfactorily may be recommended for discontinuation of their studies.

BASc(AppliedAI)

- AAI10 Unless otherwise permitted by the Board of the Faculty, candidates shall be recommended for discontinuation of their studies if they have:

    (i) failed to complete 36 or more credits in two consecutive semesters (not including the summer semester), except where they are not required to take such a number of credits in the two given semesters; or

    (ii) failed to achieve an average Semester GPA of 1.0 or higher for two consecutive semesters (not including the summer semester); or

    (iii) exceeded the maximum period of registration specified in AAI3.

Evaluation Form for Faculty Induction Talk for Freshmen in BSc, BSc&MRes (Science Master Class), BSc&LLB, BSc(ActuarSc) and BASc(AppliedAI)

We would like to hear from you about your views of the programmes today which would be useful for our improvement. Please scan this QR code and complete the online evaluation form before leaving. Thank you!