

6224

BASc(Applied AI)

Bachelor of Arts & Sciences
Applied Artificial Intelligence



Orientation



Welcome to HKU !



2025

#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

2024

#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

by subject

#14 World

#2 Asia

#1 HK

Geography

#34 World

#4 Asia

#1 HK

Psychology

Big data optimization

Statistical learning

Machine/Deep learning

Scientific computation

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



• 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://firstyear.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

Undergraduate Programmes

Home > Current Students > Undergraduate Programmes > About the programmes

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

Bachelor of Science

Bachelor of Science (Actuarial Science)

Bachelor of Arts and Sciences (Applied Artificial Intelligence)

HANDBOOK
For BSc, BSc&MRes (Science Master Class), BSc&LLB, BSc(ActuarSci) & BSc(AppliedAI) Students
2024-2025

Undergraduate Programmes

- About the programmes
 - BSc
 - BSc&MRes
 - BSc&LLB
 - BSc(ActuarSci)
 - BSc(AppliedAI)
 - BASc
 - BEd&BSc
- Academic Matters
- Forms (Science Online Application Submission System)
- Student Experiential Learning and Enrichment Opportunities
- Useful Resources

Research Postgraduate Programmes

- General Information
- News
- Coursework Information
- Postgraduate Studies Planning
- Thesis Submission System

Undergraduate Programmes

- Student Wellness Support
- Articulation Pathways
- Minor in Science Entrepreneurship
- News
- Postgraduate Studies Planning
- Induction Information for Freshmen

https://www.scifac.hku.hk/f/upload/5914/UG_Student_Handbook.pdf



hku.hk/science → www.scifac.hku.hk

Current Students -> [Bachelor of Arts and Sciences]



[About Us](#) [Prospective Students](#) [Current Students](#) [Research](#) [Knowledge Exchange](#) [Public Engagement](#) [Alumni](#) [News](#) [Events](#)

About the programmes

[Home](#) > [Current Students](#) > [Undergraduate Programmes](#) > [About the programmes](#) > BASc(AppliedAI)

BASC(APPLIEDAI)

BASc(AppliedAI) Degree Curriculum

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.

[Syllabuses](#)

[Graduation Requirements & Honours Classification](#)

[Degree Regulations](#)

[University Regulations](#)



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

HKU
Science

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

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/>

Calendar for the Academic Year 2024-2025 (Provisional)

(for undergraduate and taught postgraduate students*)

	SUN	MON	TUE	WED	THUR	FRI	SAT		Week
FIRST SEMESTER: SEP 2 - DEC 23, 2024									
First Day of Teaching: Sep 2, 2024									
SEP-24	1	2	3	4	5	6	7		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	6	7	8	9	10	[11]	12		6
	13	14	15	16	17	18	19		7(Reading)
	20	21	22	23	24	25	26		8
	27	28	29	30	31				9
NOV-24	3	4	5	6	7	8	9		10
	10	11	12	13	14	15	16		11
	17	18	19	20	21	22	23		12
	24	25	26	27	28	29	30		13
DEC-24	1	2	3	4	5	6	7		14(Break)
	8	9	10	11	12	13	14		1
	15	16	17	18	19	20	21		2
	22	23	(24)	[25]	[26]	27	28		3
	29	30	<31>						Break
JAN-25				[1]	2	3	4		Break
	5	6	7	8	9	10	11		Break
	12	13	14	15	16	17	18		1
	19	20	21	22	23	24	25		2
	26	27	<28>	(29)	(30)	(31)			Class Suspension Period for the Lunar New Year: Jan 29 - Feb 4, 2025
FEB-25	2	(3)	(4)	5	6	7	8		3
	9	10	11	12	13	14	15		4
	16	17	18	19	20	21	22		5
	23	24	25	26	27	28			
MAR-25	2	3	4	5	6	7	8		6
	9	10	11	12	13	14	15		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	4	[5]	6	7	8	9	10		15(Revision)
	11	12	13	14	15	16	17		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		Break
	29	30							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								

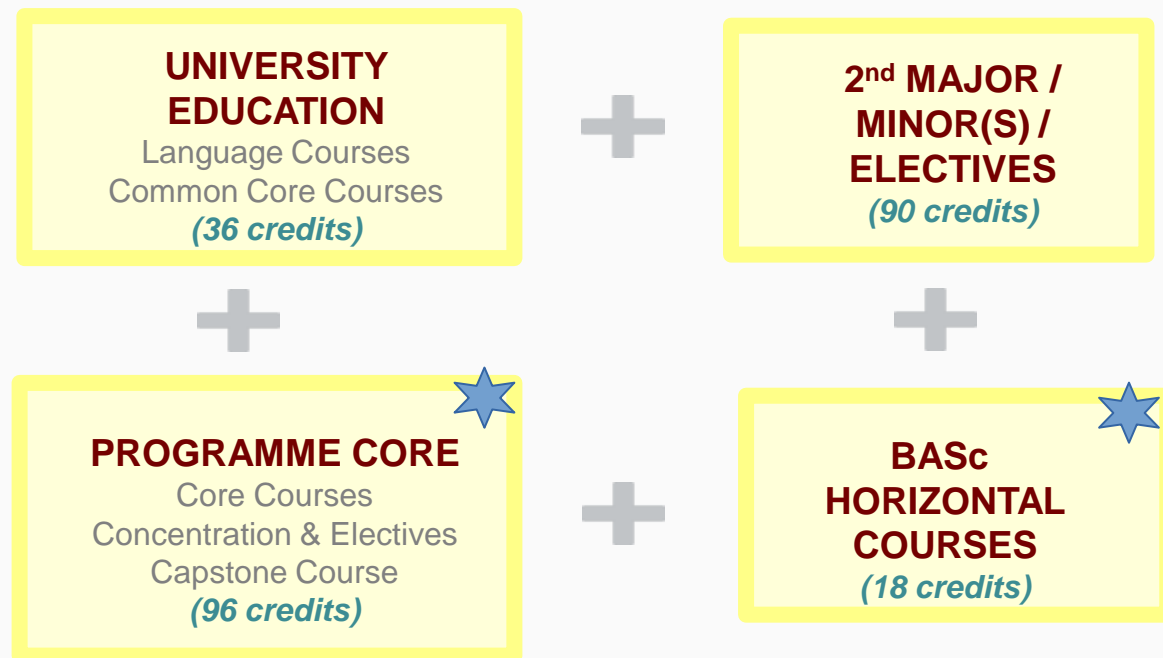
[] General Holiday	Reading-Field Trip Week
() University Holiday (Full Day)	Revision Period
<-> University Holiday (afternoon only)	Class Suspension Period for the Lunar New Year
	Assessment Period



Curriculum Structure & Course Selection



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

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Programme Core Courses (96 credits)



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

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)

Technology

Business and finance

Medicine

Smart city

Neurocognitive science

AI Technology

COMP3271
COMP3356
APAI3010
APAI4011
APAI4012
APAI4013
APAI4099

Computer graphics
Robotics
Image processing and computer vision
Natural language processing
High-performance computing: algorithms and applications
Applied high-performance computing and parallel programming
Special topics of applied AI

AI in Business and Finance

COMP3320
MATH3901
MATH3906
STAT3613
STAT4601
APAI4099

Electronic commerce technology
Operations research I
Financial calculus
Marketing analytics
Time-series analysis
Special topics of applied AI

AI in Medicine

STAT3655
STAT4610
APAI3021
APAI4022
APAI4023
APAI4099

Survival analysis
Bayesian learning
Modern biostatistics
Omics data analysis
Medical image analysis
Special topics of applied AI

AI in Smart City

URBS1003
URBS1005
GEOG2090
GEOG2147
GEOG2156
GEOG3202
GEOG3420
GEOG3430
APAI4099

Theories and Global Trends in Urban Development
Urban Problems, Interventions and Design Thinking
Introduction to geographic information systems
Building smart cities with GIS
Understanding global environmental changes from images
GIS in environmental studies
Transport and society
Geospatial data for environmental change
Special topics of applied AI

AI in Neurocognitive Science

PSYC1001
PSYC2007
PSYC2051
PSYC2066
PSYC2067
APAI4099

Introduction to psychology
Cognitive psychology
Perception
Foundations of cognitive science
Seminars in cognitive science
Special topics of applied AI

Other Elective Courses

COMP3250
COMP3251
COMP3252
COMP3278
MATH3601
MATH3600
MATH3911
MATH3943
STAT3600
STAT3622
STAT4602

Design and analysis of algorithms
Algorithm design
Algorithm design and analysis
Introduction to database management systems
Numerical analysis
Discrete mathematics
Game theory and strategy
Network models in operations research
Linear statistical analysis
Data visualization
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

 AI SDS D+ FT GHD



Suggested Study Plan

Suggested / Example Structure of BASc(AppliedAI) Curriculum¹ (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	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) <u>(please also refer to the remarks below)</u> : 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 Machine Learning				

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

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AppliedAI

BASc(AppliedAI) First Year Timetable



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		
10:30 – 11:20 am	MATH1013-A					
11:30 – 12:20 pm						
12:30 – 1:20 pm	APAI1001		Common Core	APAI1001		
1:30 – 2:20 pm	APAI1001	BASC9001				
2:30 – 3:20 pm		BASC9001				
3:30 – 4:20 pm		MATH1013C			MATH1013C	
4:30 – 5:20 pm		COMP1117-A		MATH1013B	MATH1013C	
5:30 – 6:20 pm	MATH1013B	COMP1117-A		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		
10:30 – 11:20 am	STAT2601-B	STAT1016				
11:30 – 12:20 pm		STAT1016			STAT1016	
12:30 – 1:20 pm			Common Core		COMP2113-C	
1:30 – 2:20 pm					COMP2113-C	
2:30 – 3:20 pm						
3:30 – 4:20 pm		MATH2014			MATH2014	
4:30 – 5:20 pm				COMP2113-C	MATH2014	
5:30 – 6:20 pm				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

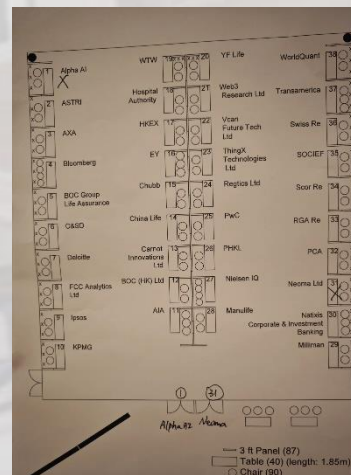
Partner with Industrial Leaders

(in year 3 or year 4)





SAAS Career Fair



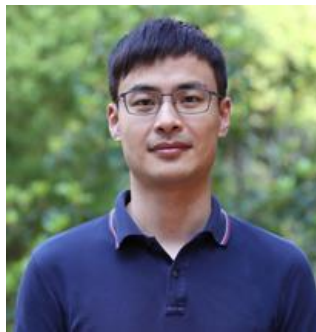
Please check the email later for the information of SAAS Career Fair 2024

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)

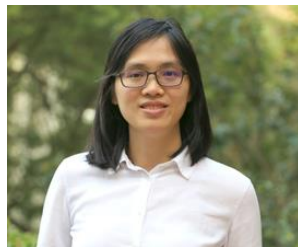


Prof. Patrick NG
(Mathematics, RRS 424)



Prof. Yizhou YU
CS Coordinator

→ Course Selection Advisers



Dr. Liangqiong QU
(RRS 121)



Dr. Yuenwen LEI
(RRS 319)

Internship Adviser



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.