6901 Bachelor of Science
6729 Bachelor of Science in Actuarial Science
6224 Bachelor of Arts and Sciences (AppliedAI)
6212 Bachelor of Arts and Sciences
6119 Bachelor of Education and Bachelor of Science (5-year Double Degree)
High University Rankings

Global Experience
Committed to nurturing students as global citizens
Targeting at 100% overseas experience by 2022
Examples of overseas experiences:
- Worldwide exchange studies
- Overseas Research Fellowships
- Field trips
- Summer courses
- International scientific conferences
- Internships

International Environment
About 40% academic staff in the Faculty are from overseas
#2 The Most International University in the World
(THE World University Ranking 2020)

Top-ranked Scientists
(Clarivate Analytics’ Essential Science Indicators 2019) 15.4% of professoriate staff in the Faculty are the world’s top 1% scholars

Career Prospects
Essentially 100% employment rate
(inclusive of further studies) in the past decade

Why

HKU Science

Research Divisions
- Chemistry
- Earth & Planetary Science
- Ecology & Biodiversity
- Mathematical & Statistical Science
- Molecular & Cell Biology
- Physics & Astronomy

Departments
- Biological Sciences
- Chemistry
- Earth Sciences
- Mathematics
- Actuarial Science
- Physics

Special Features
for Science curricula

Young Scientist Scheme (YSS)
- Early Research Experiences for Outstanding Students in the 6901 BSc Programme

Cambridge-track under YSS
- HKU-Cambridge Undergraduate Recruitment Scheme (Natural Sciences) for selected YSS participants
  - Earning 3-4 degrees upon successful completion of 2 years of studies at HKU and 2-3 years of studies at Cambridge

Intensive Majors
- Specialisation and intensive training make experts
  - Biological Sciences (Intensive)
  - Chemistry (Intensive)
  - Ecology & Biodiversity (Intensive)
  - Geology (Intensive)
  - Molecular Biology & Biotechnology (Intensive)
  - Mathematics (Intensive)
  - Physics (Intensive)

Accreditations
- Quality assured through recognition by international professional bodies
  - Royal Society of Biology, UK
  - Royal Society of Chemistry, UK
  - The Geological Society, UK

Articulation Pathways
- Seamless articulation to widely recognised postgraduate programmes
  - Taught Postgraduate Programmes at HKU Science
  - Master of Science in Biotechnology at Northeastern University
  - Doctor of Veterinary Medicine (DVM) at University of Melbourne (UoMelb)

Minor in Science Entrepreneurship
- Opening the doors to entrepreneurship
  - Visualises how training in science bears relevance to the real world

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Minor in Science Entrepreneurship
- Opening the doors to entrepreneurship
  - Visualises how training in science bears relevance to the real world
**Bachelor of Science (BSc)**

Empowers scientific intellectuals to formulate solutions to society’s challenges

### The Programme

- **One entry in the application, with a free choice of 14 Science Majors and 7 Intensive Majors:**
  - Biochemistry
  - Biological Sciences
  - Biological Sciences (Intensive)
  - Chemistry
  - Chemistry (Intensive)
  - Decision Analytics
  - Earth System Science
  - Ecology & Biodiversity
  - Ecology & Biodiversity (Intensive)
  - Environmental Science
  - Food & Nutritional Science
  - Geology
  - Geology (Intensive)
  - Mathematics
  - Mathematics (Intensive)
  - Molecular Biology & Biotechnology
  - Molecular Biology & Biotechnology (Intensive)
  - Physics
  - Physics (Intensive)
  - Risk Management
  - Statistics

- **Tackling novel situations:** Nurture a scientifically literate population to address the global challenges that human faces and makes wise decisions informed by scientific understanding

- **Career prospects:**
  - The Faculty has got essentially 100% employment rate (inclusive of further studies) in the past decade
  - Many of our graduates are holding positions that demand scientific expertise, such as environmental scientists, nutritionists, clinical scientists, meteorologists, geologists, information specialists, financial analysts, teachers and forensic scientists
  - Our graduates are preferred by employers because of their numerical analytical skills, logical thinking and critical thinking

### BSc Curriculum Structure (240 Credits)

- Forty 6-credit courses spanning over 4 years of full-time study

#### UNIVERSITY EDUCATION
- Language Courses
- Common Core Courses
- **54 credits**

#### PRIMARY SCIENCE MAJOR
- Science Foundation Courses
- Disciplinary Courses
- Capstone Courses
- **96 credits**

#### 2ND MAJOR/ MINOR(S)/ ELECTIVES
- **90 credits**

### Intensive Majors

**Specialisation and intensive training make experts**

- Offered alongside with the regular 96-credit Majors
- Provide students with extensive subject knowledge
- Equips students who intend to pursue research in science
- Listed in the transcript
- Having an advantage at job application and when seeking chartered status

### Key Features of Our BSc Curriculum

- **No Quota for any Science Major**
- **Academic Advising System:** One-on-one academic advice

### Options of 1 Major/ 2 Majors/ Major-Minor/ Major-2 Minors

- Students may take a 2nd Major or a Minor or 2 Minors in Science or non-Science disciplines

### Simple and Flexible

- One entry in application for a choice of 14 Majors and 7 Intensive Majors
- Up to 2 years time to choose a Major
- Flexibility in changing Majors

### BSc Curriculum Structure (240 Credits)

- Spanning over 4 years of full-time study

#### UNIVERSITY EDUCATION
- Language Courses
- Common Core Courses
- **54 credits**

#### INTENSIVE SCIENCE MAJOR
- Science Foundation Courses
- Disciplinary Courses
- Capstone Courses
- **144-150 credits**

#### MINOR(S)/ ELECTIVES
- **36-42 credits**

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*Accredited by various royal societies in the UK*
Students in YSS are guaranteed with:
- Summer Research Fellowship (SRF)
- A further SRF or an Overseas Research Fellowship (ORF)
- International exchange, visiting or summer study
- Attendance to an international scientific conference
- A research mentor
- Enrolment in the Frontiers of Science Honours Seminar
- Stipends for research activities
- Entrance scholarship

*Scholarships for Non-JUPAS students are considered on case-by-case basis.

In 2020, 40 students were admitted to YSS.

**JUPAS**
Selected Non-JUPAS applicants will be invited to enrol in YSS.

*Notes:*
- 6901 BSc students not admitted to YSS on entry but show excellent talent afterwards will still:
  - have a second chance to enrol in YSS at a later stage
  - be able to compete for SRF, ORF and/or international exchange during their study

**The HKDSE ‘level to score’ conversion**
- Category A Core and Elective Subjects and Extended Module 1 or Module 2 in Mathematics

**Level**  
- 1  
- 2  
- 3  
- 4  
- 5  
- 5*  
- 5**

**Score**  
- 1  
- 2  
- 3  
- 4  
- 5  
- 5.7  
- 8.5

**HKU Undergraduate Degree**
Available for students in the 6901 BSc Programme majoring in:
- Biochemistry
- Biological Sciences
- Chemistry
- Earth System Science
- Ecology & Biodiversity
- Environmental Science
- Geology
- Molecular Biology & Biotechnology
- Physics

**Cambridge Undergraduate Degree**
Specialisation for a Natural Sciences degree at Cambridge in year 4:
- Astrophysics
- Biochemistry
- Chemistry
- Earth Sciences
- Genetics
- Materials Science
- Pathology
- Or a broad Science programme:
  - Biological & Biomedical Sciences

**How to Enroll in the Cambridge-track**
- JUPAS Band A applicants and selected Non-JUPAS applicants of 6901 will be invited to indicate their interest in the Cambridge-track. Those interested will undergo a selection process including an Admissions Test and an Interview.

**Basic Subject requirements:**
- JUPAS
  - M/M2 in Mathematics;
  - Level 5 in English Language
- NON-JUPAS
  - IB: HL Mathematics
  - GCEAL: Mathematics and Further Mathematics
  - Other Qualifications: Excellent results in Mathematics

**Admissions of Students on the Cambridge-track to Cambridge**

**Study Path for YSS Students in the Cambridge Scheme**

**HKU–Cambridge Undergraduate Recruitment Scheme (Natural Sciences)**
Cambridge-track for Selected YSS Participants in Natural Sciences Disciplines

**HKU or Cantab?**

- Why not BOTH?
- *Scholarships for Non-JUPAS students are only available for Natural Sciences disciplines.

**Notes:**
- All students will study 3 science subjects in Year 3 to get prepared for the specialisation in Year 4.
- Students who do NOT opt for a Master’s degree at Cambridge will take research internship at HKU to fulfill the University’s graduation requirements.
- Students will gain the BA degree at HKU and the MA/Cantab degree at Cambridge for their study at HKU and Cambridge respectively.

**Kings College London**

**Special Feature**
- A joint recruitment scheme that allows selected YSS students in the 6901 BSc programme to pursue studies in two renowned universities
- Allows students to study abroad and experience overseas life and culture
- Nurtures future science professionals to develop innovative solutions for global challenges
- Ample learning opportunities in YSS
  - Summer Research Fellowship
  - Overseas Research Fellowship
  - International scientific conference
  - Guidance by research mentor

**HKU Scholarships**
- Conditional Offer
- Firm Offer

**The Track**
- JUPAS
- *The MA is conferred by right on holders of the BA degree at Cambridge, upon application after certain years' seniority as members of Cambridge

**HKU-Cambridge Undergraduate Recruitment Scheme**

**Year 1**
HKU Undergraduate Degree

**Year 2**
Cambridge Undergraduate Degree
Specialisation for a Natural Sciences degree at Cambridge in 4 years:

**Year 3**

**Year 4**
Cambridge Master’s Degree
- Astrophysics
- Biochemistry
- Chemistry
- Earth Sciences
- History and Philosophy of Science
- Materials Science
- Physics
- Systems Biology

**Addition of WB in BSc(HKU) + BA(Cantab) + MA(Cantab)**

**Conditional Offer**
- Satisfying the requirements
- Firm Offer by second year

**Study Path for YSS Students in the Cambridge Scheme**

**Or**

- BSc(HKU) + BA(Cantab) + MA(Cantab)*

**Remark:**
1. Students will study 3 science subjects in Year 3 to get prepared for the specialisation in Year 4.
2. Students who do NOT opt for a Master’s degree at Cambridge will take research internship at HKU to fulfill the University’s graduation requirements.
3. Students will gain the BA degree at HKU and the MA/Cantab degree at Cambridge for their study at HKU and Cambridge respectively.

**Conditioned by Cambridge teachers**

**Remarks:**
1. Students who do NOT opt for a Bachelor’s degree at Cambridge will take research internship at HKU to fulfill the University’s graduation requirements.
2. Students will gain the BA degree at HKU and the MA/Cantab degree at Cambridge for their study at HKU and Cambridge respectively.

**Earning 3-4 degrees upon successful completion of 2 years of studies at HKU and 2-3 years of studies at Cambridge**
- *Number of students selected for each cohort normally will not exceed 80% of the YSS population
Requirements for selected HKU Science undergraduate students

- Credits obtained during the first year of DVM at UoMelb can be transferred to HKU as electives for fulfilling the credit requirements of the BSc programme (subject to relevant HKU regulations)
- Obtain 2 degrees from the 2 universities in as fast as 7 years – the HKU BSc degree and the DVM in UoMelb

Quota: A maximum of 5 places annually
Programme fees: Students will pay HKU fees and UoMelb fees for their study at HKU and UoMelb respectively
Career aspects: Graduates can register as veterinary surgeons and practise in HK through Veterinary Surgeons Board of Hong Kong and in many countries such as Australia, UK and US

About DVM@UoMelb
- Renowned university in the global arena
- Its DVM programme ranks 16th in Veterinary Science of QS World University Rankings 2020
- Accredited by Australasian Veterinary Boards Council Inc. (Australia), American Veterinary Medical Association (USA) and Royal College of Veterinary Surgeons (UK)
Minor Science Entrepreneurship

Opening the doors to entrepreneurship

This Minor aims at

- Broadening the horizon of our undergraduate students with respect to entrepreneurship
- Offering more competitive edge to our students via connecting their academic knowledge with the real world
- Bringing students huge insights via critical analysis of the operation of existing enterprises

Some highlights of the Minor

- Co-taught by other Faculties such as Faculty of Business and Economics
- Strong emphasis on practical experience:
  - Internship
  - Capstone project
- Mentoring offered by entrepreneurs or senior staff in industry/business
- Incorporates new courses tailor-made for this Minor such as organisational behaviours, leadership, principles of technology entrepreneurship, science-based innovation development, strategic marketing and user analysis

Undergraduate Research Experiences

- Overseas Research Fellowship (ORF):
  Examples:
  - North America
    - California Institute of Technology
    - Columbia University
    - Comell University
    - MIT
    - Stanford University
    - University of California at Berkeley
    - University of California at Los Angeles
  - Europe
    - CERN
    - University of Cambridge
    - University College London
    - Summer Research Fellowship (SRF)
    - Undergraduate Research Colloquium
    - Final-year projects
    - Directed studies

International Exchange Studies

Over 300 partner universities in more than 40 countries, including:
- North America
  - University of California
  - University of Chicago
  - Columbia University
  - Johns Hopkins University
  - Stanford University
  - Yale University
- Europe
  - University of Cambridge
  - University of Oxford
  - Imperial College London

Field Trips

Provide students with hands-on learning
Examples of field trip destinations:
- Kenya, Australia, Thailand, Japan, USA

Internships

Opportunities in:
- Government bodies
- Scientific laboratories
- Non-government agencies/ NGOs
- Commercial companies

Accreditations

Quality assured through recognition by international professional bodies

Royal Society of Biology, UK
- Biological Sciences, Ecology & Biodiversity and Molecular Biology & Biotechnology Intensive Majors have been conferred the accreditation
- The Ecology & Biodiversity Major is the first programme of its type accredited by RSB in Asia
- Students completed the RSB accredited programme will be awarded a certificate by the School of Biological Sciences, with authorisation by the RSB, to recognise their achievements
- Graduates will receive one year of guest membership of RSB at Associate level and this will help them to:
  - stay up-to-date with what is happening across the life sciences
  - gain additional recognition for their skills and experience
  - develop their professional network
  - demonstrate their support for the future of biology

Royal Society of Chemistry, UK
- Exclusively for students who wish to specialise in chemistry
- Students completed the RSC accredited Chemistry Intensive programme will be awarded a certificate by the Department of Chemistry, with authorisation by RSC, to recognise their achievements
- All students in the final year of this accredited programme are qualified to apply for membership to RSC

The Geological Society, UK
- Students completed specified Geology Intensive programme will receive an accredited degree which provides an accelerated route to achieve the qualification
- Students completed the Geological Society accredited programme will be awarded a certificate by the Department of Earth Sciences, with the authorisation by the Geological Society, to recognise their achievements
- Qualification recognised internationally and in Hong Kong, and chartered geologists are regarded as professionally equivalent to chartered engineers
Bachelor of Science in Actuarial Science
BSc(ActuarSc)

A gateway to the actuarial profession with internationally recognised qualification

The Programme

• Provides specialist academic and professional training in actuarial science
• Prepares students for professional examinations to Associateship level
  – UK – Institute and Faculty of Actuaries
  – North America – Casualty Actuarial Society and Society of Actuaries
• Accredited by professional body, while graduates will be exempted from various professional examinations (subject to re-accreditation)
  – UK – Institute and Faculty of Actuaries
• Validation by Educational Experience (VEE) obtained
  – North America – Casualty Actuarial Society, Society of Actuaries and Canadian Institute of Actuaries
• Internship opportunities with major insurers, actuarial consulting firms, reinsurers, investment firms, auditing firms and management consulting firms

Unique Features

• Specialisation: The ONLY programme in Hong Kong accredited by Institute and Faculty of Actuaries
• Professional recognition: The Department of Statistics & Actuarial Science has been designated a Centre of Actuarial Excellence by the Society of Actuaries since 2011
• Career prospects: Abundant career opportunities in Hong Kong and mainland China. Graduates develop their careers in major insurance and reinsurance companies, actuarial consulting firms and investment banks

BSc(ActuarSc) Curriculum Structure
(240 credits)

Forty 6-credit courses spanning over 4 years of full-time study

Dr Patrick S C Poon Scholarship in Actuarial Science

• 5 scholarships are awarded annually to freshly-admitted first year students with outstanding entrance records, each at HK$50,000 or HK$60,000
• Renewable based on satisfactory performance in each year’s study in the programme

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

Impacts the world with the limitless power of AI

Unique Features

• Interdisciplinary programmes for elite students: Provides formal academic training to elite students who wish to join the AI profession
• Featured concentrations:
  • Career prospects in diverse areas: Science and technology, environmental protection, medical informatics, health care, business, banking, finance, urban development, neurocognitive science, etc.
  • Interdisciplinary training: Facilitates a coordinated approach in collaboration with the Faculties of Engineering, Social Sciences and Architecture

BASc(AppliedAI) Curriculum Structure
(240 credits)

Spinning over 4 years of full-time study

Highlights

• Emphasises problem-based learning with a wide range of courses: computer science, geography, mathematics, psychology, statistics and urban studies
• Delivers both fundamental and practical knowledge in the design and construction of intelligent systems to fit into different career settings
• Nurtures students to transfer interdisciplinary scientific knowledge into a range of integrated applications and technological innovations

Practice

• Emphasises problem-based learning with a wide range of courses: computer science, geography, mathematics, psychology, statistics and urban studies
• Delivers both fundamental and practical knowledge in the design and construction of intelligent systems to fit into different career settings
• Nurtures students to transfer interdisciplinary scientific knowledge into a range of integrated applications and technological innovations

Highlights

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Unique Features

• Interdisciplinary programmes for elite students: Provides formal academic training to elite students who wish to join the AI profession
• Featured concentrations:
  • Career prospects in diverse areas: Science and technology, environmental protection, medical informatics, health care, business, banking, finance, urban development, neurocognitive science, etc.
  • Interdisciplinary training: Facilitates a coordinated approach in collaboration with the Faculties of Engineering, Social Sciences and Architecture
The Programme
• Co-offered by the Faculties of Social Sciences, Arts and Science
• Designed for intellectually ambitious students who want to develop a broad set of scholarly skills in order to become leaders across a diverse range of fields to meet important global challenges
  - Social intelligence
  - Creative problem-solving
  - Analytical skills
  - Communication skills
  - Ethical responsibility
  - Interdisciplinary perspective in understanding our world

Unique Features
• Interdisciplinary major: Students take disciplinary courses from the 3 Faculties and also elective courses within 2 pathways:
  1. Cultures/Societies
  2. Physical World/Biological/Human Sciences
• Developing intellectual toolkit: Learn how to intertwine knowledge from various disciplines and integrate them together through:
  - Case studies
  - Capstone learning
  - Experiences of thought leaders in professions
• Career prospects: Wide career prospects in government, management consultancy, public relations, banking, public policy, environmental services, museum, heritage or science writing/journalism and non-governmental organisation work, etc.

BASc Curriculum Structure
(240 credits)
Spanning over 4 years of full-time study

UNIVERSITY EDUCATION
Language Courses
Common Core Courses 36 credits

PROGRAMME CORE
Interdisciplinary curriculum
• Qualitative and Quantitative Research Methods in Interdisciplinary Studies
• Interdisciplinary Capstone Course
• Courses from Two Pathways: (a) Cultures/Societies
  (b) Physical World/Biological/Human Sciences
• Internship

BASc CORE COURSES 18 credits

ELECTIVES 90 credits

The Programme
• 5-year Double Degree Programme
• Offered jointly by the Faculty of Education and the Faculty of Science
• Integrated programme offering both academic and professional studies
• Requires students to complete 300 credits of course units including:
  - Science courses to fulfil the requirement of a Science Major
  - Education professional core courses with the Faculty of Education

Unique Features
• Professional training:
  - Incorporates a graduate teaching qualification equivalent to a BSc plus a Postgraduate Diploma in Education
  - Pedagogy courses and Teaching Practice in Hong Kong secondary schools
• Career prospects:
  - Thorough knowledge of Science subject, broad understanding of educational issues, and high level of classroom expertise prepare graduates for teaching Science at all levels in local secondary and international schools
  - Graduates also find employment opportunities in industrial and government sectors in which BSc graduates are often employed

BEd & BSc Curriculum Structure
(300 credits)
Spanning over 5 years of full-time study

UNIVERSITY EDUCATION
Language Courses
Common Core Courses 42 credits

PROFESSIONAL CORE SCIENCE EDUCATION (including Professional Practicum)
(120 credits)

ELECTIVES 42 credits
Admissions Requirements

## JUPAS Applicants

Minimum programme entrance requirements:

<table>
<thead>
<tr>
<th>Programme</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
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<tbody>
<tr>
<td>BSc</td>
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<td>BASc(AppliedAI)</td>
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<td>BASc(AppliedAI)</td>
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<tr>
<td>BSc(AppliedAI)</td>
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Remarks:

- # Elective subjects can be any Category A subject, one of them must be a Science subject.
- ^ Candidates with level 4 in English Language and good results in other HKDSE subjects will be exceptionally considered on a case-by-case basis. If these candidates are admitted, they will be required to take 6 additional credits in University English to complete their degree studies.

## Useful Information

HKU Undergraduate Admissions

[https://www.aal.hku.hk/admissions](https://www.aal.hku.hk/admissions)

## Contacts for Further Information

For **BSc, BSc(AppliedSc) & BASc(AppliedAI): Faculty of Science**

- [www.scifac.hku.hk](http://www.scifac.hku.hk)
- 3917-2683, science@hku.hk

For **BEd & BSc: Faculty of Education**

- [web.edu.hku.hk/programme/bedbsc_6119](http://web.edu.hku.hk/programme/bedbsc_6119)
- 3917-4659, bedbsc@hku.hk

For **BASc: Faculty of Social Sciences**

- [www.socsc.hku.hk/basc/](http://www.socsc.hku.hk/basc/)
- 3917-1207, socscug@hku.hk