Science
Undergraduate Programmes

Create Your Unique Colour of Science

Interdisciplinary
BASc Programmes

Intensive Majors

Accreditations

Articulation Pathways

Young Scientist Scheme
Cambridge-track under YSS

Minor in Science
Entrepreneurship

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 Programme)

SCIENCE CREATES KNOWLEDGE
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

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

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)
• Mathematics (Intensive)
• Molecular Biology & Biotechnology (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
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 (Intensive)
  - Chemistry
  - Chemistry (Intensive)
  - Decision Analytics
  - Earth System Science
  - Ecology & Biodiversity
  - 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: Nurtures 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

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

Key Features of Our BSc Curriculum

- No Quota for any Science Major
- One-on-one academic advice

Academic Advising System

- One-on-one academic advice

Intensive Majors
Specialisation and intensive training make experts

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

Intensive Majors
Curriculum Structure (240 Credits)

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

MINOR(S)/ELECTIVES

- 36-42 credits

INTENSIVE SCIENCE MAJOR

- Science Foundation Courses
- Disciplinary Courses
- Capstone Courses
- 144-150 credits

Biological Sciences
- (144 credits)*

Ecology & Biodiversity
- (144 credits)*

Geology
- (150 credits)*

Mathematics
- (144 credits)*

Chemistry
- (144 credits)*

Molecular Biology & Biotechnology
- (144 credits)*

Physics
- (144 credits)*

Risk Management
- (144 credits)*

Statistics
- (144 credits)*

- Accredited by various royal societies in the UK

Remarks:

1. Accredited by Society of Biology
2. Accredited by Society of Chemistry
3. Accredited by The Geological Society

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**University of Melbourne (UoMelb)**

New pathway to talented students who aspire to pursue a career in veterinary medicine in collaboration with University of Melbourne (UoMelb) in Australia.

**HKU BSc + UoMelb DVM**

Articulation pathway to the Doctor of Veterinary Medicine at the University of Melbourne.

**HKU 6901 Bachelor of Science**

- Master of Data Science (MDASC)
- Master of Statistics (MStat)
- MSc in Environmental Management
- MSc in the field of Applied Geosciences
- MSc in the field of Food Industry Management and Marketing
- MSc in the field of Food Safety and Toxicology
- MSc in the field of Space Science

**Doctor of Veterinary Medicine (DVM)**

- In collaboration with University of Melbourne (UoMelb) in Australia, HKU Science will provide a pathway to 6901 BSc students of the following majors to articulate into the DVM of the UoMelb:
  - Biochemistry
  - Biological Sciences
  - Ecology & Biodiversity
  - Molecular Biology & Biotechnology
  - Food & Nutritional Science

**Requirements for selected HKU Science undergraduate students**

- Attach Bachelor Programmes to HKU Science
- Taught Master Programmes
- Gaining 2 degrees in 5/5.5 years

**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 in 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
    - Cornell 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
  - The 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

Royal Society of Chemistry, UK
- 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

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## 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

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## 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:**
  - Technology
  - Business and finance
  - Smart city
  - Medicine
  - Neurocognitive science
- **Career prospects in diverse areas:** Science and technology, environmental protection, medical informatics, health care, business, banking, finance, urban development, neurocognitive sciences, etc.
- **Interdisciplinary training:** Facilitates a coordinated approach in collaboration with the Faculties of Engineering, Social Sciences and Architecture

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

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### Scholarships
- 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

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**Dr Patrick S C Poon Scholarship in Actuarial Science**

*Additional credits required*
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.

Bachelor of Education & Bachelor of Science (BEd & BSc)
Consolidates scientific knowledge through practical experience and teaching in science

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

Bachelor of Arts & Sciences (BASc)
Nurtures future global leaders to make changes in interconnected world

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

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

### JUPAS Applicants

Minimum programme entrance requirements:

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<th>Programme</th>
<th>Level 1</th>
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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.

### Non-JUPAS Applicants

Students holding non-HKDSE qualifications are considered individually.

**Useful Information**

HKU Undergraduate Admissions
https://www.aal.hku.hk/admissions

### Contacts for Further Information

- **BSc, BSc(ActuarSc) & BASc(AppliedAI):** Faculty of Science
  - [www.scifac.hku.hk](http://www.scifac.hku.hk)
  - [3917-2683](tel:3917-2683) science@hku.hk

- **BEd & BSc:** Faculty of Education
  - [web.edu.hku.hk/programme/bedbsc_6119](http://web.edu.hku.hk/programme/bedbsc_6119)
  - [3917-4659](tel:3917-4659) bedbsc@hku.hk

- **BASc:** Faculty of Social Sciences
  - [www.socsc.hku.hk/basc/](http://www.socsc.hku.hk/basc/)
  - [3917-1207](tel:3917-1207) socscug@hku.hk