Bachelor of Science in Actuarial Science
精算學理學士課程
The HKU Bachelor of Science in Actuarial Science programme is the only programme in Hong Kong accredited by the UK’s Institute and Faculty of Actuaries. It provides formal academic and professional training to students who wish to join the actuarial profession. Although actuarial science is a separate discipline with its own area of knowledge, modern actuarial training requires multidisciplinary knowledge in probability, statistics, economics, investment, finance, law, taxation and accounting. The Actuarial Science curriculum reflects this requirement by incorporating various interdisciplinary courses into the basic yet comprehensive actuarial training.

The programme is designed to equip students with a solid background in actuarial science, and enable them to develop the confidence and analytical skills needed to define and tackle problems in actuarial science and related fields. Students should be able to evaluate and measure various kinds of risk using effective quantitative methods, and become proficient in formulating and communicating practicable business strategies with professionalism as well as accuracy.

Meanwhile, the Actuarial Science programme is also specifically designed to provide adequate knowledge for students to sit for the early professional examinations organized by international actuarial organisations. Thus, allowing them to successfully join the actuarial profession with internationally-recognised qualifications upon graduation. In addition, the programme provides sufficient academic training to allow students to pursue postgraduate studies in actuarial science or related areas should they wish to.

Programme Aims and Features

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BSc(ActuarSc) Curriculum

University Educational Aims
To enable our students to develop capabilities in:

- the pursuit of academic/professional excellence.
- critical intellectual enquiry and life-long learning.
- tackling novel situations and ill-defined problems.
- critical self-reflection, greater understanding of others, and upholding personal and professional ethics.
- intercultural understanding and global citizenship.
- communication and collaboration.
- leadership and advocacy for the improvement of the human condition.

Programme Learning Outcomes
Through coursework and tutorial classes and/or research-based project in the curriculum, by the end of the programme students should be able to:

1. understand and apply various analytic and quantitative methods to define and solve problems in insurance, finance, economics, investment, pensions, financial risk management and demography.
2. understand and identify the nature of insurance, finance and investment risks.
3. develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues.
4. formulate effective business strategies to manage various kinds of risk.
5. communicate and collaborate effectively on actuarial science related issues.
6. discuss current actuarial issues and acquire and apply practical knowledge in specially designed courses.

Students are expected to be in full-time status for eight academic semesters (in addition to their 6-month or longer full-time internships) in order to fulfill the degree requirements. Students may optionally take Majors or Minors outside the BSc(ActuarSc) programme, provided that they fully satisfy the requirements.

The programme structure is subject to change. For the most updated syllabus, please visit the Science Faculty’s website.

Center of Actuarial Excellence

The Department of Statistics and Actuarial Science, the University of Hong Kong has been designated a Center of Actuarial Excellence (CAE) by the US Society of Actuaries (SOA) since December 2011.

This prestigious designation is awarded to schools that demonstrate excellence in Actuarial Science by meeting strict criteria on curriculum quality, number and quality of graduates, qualified faculty, ties with business, and beneficial research and scholarship.

Over the years, the Department has dedicated itself to world-class standards of research, teaching and learning, and it is now highly regarded as an international centre of research and learning in the field of statistics and actuarial science.

CAE Research Grant

The Department of Statistics and Actuarial Science was awarded the CAE Research Grant by the SOA. Worth US$281,490, the grant has been used to conduct a three-year project on the actuarial study of dependent risks. As one of the only three universities in China/Asia to have been designated a CAE by the SOA, and one of just 33 worldwide, HKU is also the only university in Asia having been awarded a CAE Research Grant at the time of this writing.

For the list of CAE Grant recipients and award’s history, please visit: https://www.soa.org/Education/Resources/Cae/edu-cae-grants-award-history

Actuarial University Ranking

HKU was ranked No.2 worldwide and No.1 in Asia based on research contributions from the top 4 actuarial journals (Insurance: Mathematics and Economics, North American Actuarial Journal, ASTIN Bulletin, and Scandinavian Actuarial Journal) amongst non-business schools over a 25-year period from 1994 to 2019. It was 1994 when the BSc in Actuarial Science programme was launched. HKU was even ranked No.1 in 2006 and 2013 worldwide in this global study conducted by the University of Nebraska-Lincoln.

Accreditation

Under a new accreditation agreement with the Institute and Faculty of Actuaries (IFoA), the University of Hong Kong now joins the ranks of select institutions worldwide that offer the maximum exemptions (CS1, CS2, CM1, CM2, CB1, and CB2) approved by the Institute and Faculty of Actuaries (IFoA), United Kingdom.

The University of Hong Kong has previously obtained accreditation for IFoA subjects CT1-CT8 from the UK’s only chartered professional body dedicated to educating, developing and regulating actuaries based both in the UK and internationally. With the new accreditation, students who graduate with a BSc(ActuarSc) degree from the University of Hong Kong with the required marks in specified subjects will be exempted from taking various IFoA subjects in the new curriculum, as they begin their journey towards qualifying as an actuary.
SOA - University-Earned Credit (UEC) Program

The University-Earned Credit (UEC) program of the Society of Actuaries (SOA) allows university students to become eligible for SOA exam credit by attaining a designated UEC mark on university courses at approved Centers of Actuarial Excellence (CAE).

The University of Hong Kong (HKU), as one of the CAE designated by the SOA, obtained the UEC status approved by the SOA in July 2022, as one of the 13 inaugural UEC participants. Students who have taken the approved courses at HKU (not by credit transfer) and received a UEC mark of 60% or above are eligible to apply for the corresponding UEC from the SOA for exam exemption.

The UEC mark of a student taking an approved HKU course refers to Final Exam mark of that course.

The related SOA exams and the corresponding approved HKU course(s) are listed as follows:

<table>
<thead>
<tr>
<th>SOA Exam</th>
<th>HKU Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam FM</td>
<td>STAT2902</td>
</tr>
<tr>
<td>Exam SPM</td>
<td>STAT3907, STAT4904</td>
</tr>
<tr>
<td>Exam ASTAM</td>
<td>STAT4906, STAT4903</td>
</tr>
</tbody>
</table>

Note: Exam P is not eligible for UEC.

Prizes & Bursaries

Many scholarships are available to our actuarial science students in each year of study. The following are examples of some of the scholarships which have been awarded to our students:

- C.V. Starr Scholarship
- Century Scholarship Fund Award
- CMA and Donors Scholarship
- HK SAR Government Scholarship
- HKU Class Giving Scholarship
- HKU Foundation Entrance Scholarship
- HKU Foundation Entrance Scholarships for President’s Scholars
- HKU Foundation Scholarships for Outstanding International Students
- HKU Foundation Scholarships for Outstanding Mainland Students
- HKU Foundation Scholarships for Outstanding Students
- HKU Worldwide Undergraduate Student Exchange Scholarships
- HSBC Hong Kong Scholarship
- Kai Chong Tong Scholarship
- Lee Shau Kee Scholarships
- Lee Shau Kee Scholarships for Student Enrichment
- Li Po Chun Charitable Trust Fund Undergraduate Scholarship
- Sports Scholarships
- The Bank of East Asia Scholarship

Internship Programme

There is no better training than obtaining solid hands-on experience in the real workplace. Our Internship Programme serves precisely this purpose. As an intern, the student will gain insight into the challenging world and daily activities of an actuary while strengthening his/her technical, analytical and communication skills.

Under the Internship Programme, BSc(ActuarSc) students are eligible to use the Department’s Internship / Job Online-application System, where related internships and other job openings including graduate positions will be posted. Our alumni may wish to know that normally they will still be eligible to use the System after graduation from our Department.

The Internship Programme assists students by advertising part-time, summer, temporary and full-time internship positions, sending the CVs of interested students to employers, and arranging interviews for shortlisted students. Recruitment activities normally begin at least six months prior to the expected starting date of a position. For details about our Internship Programme, please visit: https://saasweb.hku.hk/teaching/internship-details.php

Student Sharing

Tang Shiqi, BSc (Actuarial Science)
Prudential Corporation Asia (2021)

During my six-month internship at Prudential Corporation Asia, I gained a general understanding of the main work content in the actuarial industry. During my regular workday, I had not only learned about the specific model operations and workflow of the actuarial department of Prudential Corporation Asia, but also improved my ability to cooperate with other students and communicate with my supervisors.

In addition, the very friendly office atmosphere and the meticulous and inspiring supervisors had made my internship a happy and caring one. I had not only acquired knowledge and skills, but also gained friendships and was able to ask more experienced supervisors when I encountered doubts and difficulties in the future, which is the most valuable asset I gained from my internship.

He Xutong, BSc (Actuarial Science)
Prudential Corporation Asia (2021)

I am grateful to have my first internship in Prudential Corporation Asia. Through this internship programme, I have a more insightful understanding of what an actuary does in daily work and I have learned lots of actuarial science knowledge, technical skills, and soft skills. First of all, I had a chance to apply what I have learned in statistic courses in my work and acquired some knowledge about the insurance products. For instance, I have learned how different risks are related to different products and how to use the data to estimate the economic capital required in some extreme situations. Also, I have polished my Excel and VBA skills during the internship.

Besides, during the internship, my supervisor and other colleagues have provided me with some timely feedbacks and suggestions on my work, which have also motivated me a lot. They also gave me some suggestions on my future career path. Generally speaking, the working atmosphere was really nice in PCA.

Fung Bryan Tsz Cheung, BSc (Actuarial Science)
FWD Life Insurance Company (Bermuda) Limited (2021)

During this internship programme, I have exposed to a lot of learning opportunities in workplace which I have never learnt at the University before. At the University, we learn about theories and solving theoretical problems. At work, we learn by doing tasks with our own hands. For instance, we use Excel tools to calculate the policy values including the amount of accumulated dividend and coupons, projecting the policy values of the first year using Excel. One of the greatest gains from the internship is the problem-solving skill when doing tasks. The use of Excel and other tools helped me work a lot during the internship by simplifying a very tedious and long task to an easy job by clicking a few buttons. The seniors from workplace were also kind to us. They were very willing to teach us skill sets and the knowledge they used while they were working. They also shared some future career aspects with us to aid our future pathway in actuarial science.
Sir Edward Johnston Prize
(awarded by the Institute and Faculty of Actuaries, UK)
Sir Edward Johnston Prize is awarded to the best performing graduating students on the actuarial programmes at the five universities (in South East Asia), including HKU, which are linked to the Institute and Faculty of Actuaries (IoA). For details, please visit the IoA’s website: https://www.actuaries.org.uk/

Statistics and Actuarial Science (SAAS) Scholarships
In addition to the aforementioned university-wide scholarships, 28 scholarships, each worth between HK$4,000 and HK$20,000, are made available each academic year by the Department of Statistics and Actuarial Science. The Department awards these scholarships annually on the basis of academic merit to outstanding students in different years of study who are pursuing a BSc degree in Actuarial Science or a first major in Decision Analytics, Risk Management or Statistics.

The Life Underwriters Association of Hong Kong Scholarship
In April 2022, The Life Underwriters Association of Hong Kong (LUA) and The LUA Foundation Limited (LUAF) have both pledged an aggregate annual donation, for an initial period of five years, to support undergraduate students through scholarship and bursary. Two scholarships shall be awarded annually to year 2 or above local full-time undergraduate students reading the Bachelor of Science in Actuarial Science OR Bachelor of Science (Major in Risk Management) programs under the Department of Statistics & Actuarial Science. The Scholarship shall be awarded based on academic merit with cumulative GPA3.2 or above. In cases of students of equal academic merit, participation of community service shall also be taken into consideration. The Scholarship shall be of the value of HK$10,000 each.

The Hong Kong Federation of Insurers Scholarship
In 2012, the Hong Kong Federation of Insurers Educational Trust kindly pledged an annual donation to support scholarships for undergraduates majoring in Actuarial Science at HKU, with the objective of encouraging tertiary education in insurance. A maximum of six scholarships, each of the value of HK$20,000, shall be awarded annually to outstanding BSc(ActuarSc) Year 3 or above local students. For more details about the Department’s scholarships, please visit: https://www.scholarships.hku.hk/scholarships,28 scholarships, each worth between HK$4,000 and HK$20,000, are made available each academic year by the Department of Statistics and Actuarial Science. The Department awards these scholarships annually on the basis of academic merit to outstanding students in different years of study who are pursuing a BSc degree in Actuarial Science or a first major in Decision Analytics, Risk Management or Statistics.

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For details about all HKU’s scholarships, please visit: https://www.scholarships.hku.hk

SUN Lianyi
2016 BSc(ActuarSc) graduate
Exchange at University of Waterloo

Participating in the HKU Exchange Programme far away from my home country was exciting and full of fun. During my stay in Davis, I took classes with renowned professors in statistics and made friends with outstanding students from different parts of the world. Also, UC Davis gave me one of the most memorable and special Chinese New Year I have ever experienced. International friends held a party for exchange Chinese students, during which we made dumplings, had a big meal and chatted. In addition, as a lover of travelling, I went to the top of the Space Needle in Seattle to enjoy a full view of the city, went to a Celine Dion concert in Las Vegas and touched the bull status in New York City. I think I will treasure the days in Davis for my whole life.

HAO Shuoyang
2016 BSc(ActuarSc) graduate
Exchange at University of Waterloo

Last semester, I went to the University of Waterloo as an exchange student, and I had four months there experiencing a new way of life. Waterloo is a city in southern Ontario, Canada. It is the smallest of the three cities in the regional municipality of Waterloo. Compared with cities in China, I would rather call it a small town, and I did experience a quite different life from Hong Kong. If I am asked what I learned during this semester, I think I will say that the courses I took were not the most important thing but that learning another way of life was. Without this exchange experience, I would not have experienced an entirely new kind of life. It also changed my view of life. In future I may not choose to live a modern city life but rather a quiet comfortable rural life. My four months in Canada were really impressive and unforgettable.

HKU Worldwide Undergraduate Student Exchange Programme

The Statistics and Actuarial Science Society (SASS) has been serving students of the HKU Department of Statistics and Actuarial Science since its establishment in 1969. Over the years, the student society has grown into a large family with thousands of members.

The SASS has dedicated itself to promoting the study of actuarial science, decision analytics, risk management, statistics and applied artificial intelligence. It also serves to provide a sense of unity, promote the welfare of its members and maintain a harmonious relationship between staff members and students.

Every year, the SASS organises a variety of functions, including the alumni mentorship scheme, annual dinner, annual survey, firm visits and many more. The SASS works closely with the Department and serves its members with enthusiasm. They strive in the best interests of their members and aim to ensure they enjoy a fruitful and joyful university life.

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Since its establishment in 1967, the HKU Department of Statistics and Actuarial Science has always dedicated itself to reaching world-class standards with aspirations to be an international centre of excellence for both research and teaching and learning (T&L). Undertaking this enduring dedication is the Department’s dynamic research profile with wide-ranging areas of expertise. Over the years, the Department has been awarded General Research Fund (GRF) grants by the University Grants Committee (UGC) to undertake numerous research projects in statistics and actuarial science.

According to the UGC’s Research Assessment Exercise (RAE) 2020, we rank No. 1 in terms of the percentage judged to meet the standard of 4-star, the highest star level for overall quality profile of research, out of seven comparable units of assessment for Mathematics and Statistics. Our impact and environment sub-profiles even reach 100% of 4-star quality, i.e. outstanding in terms of reach and significance, and world-leading in terms of vitality and sustainability respectively, as defined by the UGC.

The Department has been internationally recognized and ranked in top 15 in the world by QS, Times Higher Education, the Academic Ranking of World Universities (ARWU), and the Quacquarelli Symonds (QS) World University Rankings. The Department is also ranked among the top 100 in the world by the Academic Ranking of World Universities (ARWU) in 2020 and 2021 for Economics.

The RAE is part of the UGC’s commitment to assessing the performance of the UGC-funded universities in Hong Kong. It is a criterion-referenced exercise against agreed quality levels as defined by international standards, covering research outputs completed during October 2013 to September 2019. To maintain the credibility of the assessment process, international experts and members with discipline-specific expertise and knowledge of local conditions have been engaged.

Over the years, the outcome of the RAE has provided guidance for universities’ developments in respect of pursuing research excellence. Universities’ performance in the RAE also informs the allocation of part of the Research Portion of the Block Grant.

We will continue to strive for excellence in research and T&L endeavours in the coming years.
Admissions Requirements

JUPAS Stream
Minimum level required for JUPAS candidates:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language*</td>
<td>Level 3</td>
</tr>
<tr>
<td>Chinese Language</td>
<td>Level 3</td>
</tr>
<tr>
<td>Mathematics*</td>
<td>Level 4</td>
</tr>
<tr>
<td>Liberal Studies</td>
<td>Level 2</td>
</tr>
<tr>
<td>Elective Subjects: Category A subjects</td>
<td>Level 4</td>
</tr>
<tr>
<td>and Extended Module 1 or 2 in Mathematics (M1/M2)</td>
<td>Level 3 in 1 elective subject</td>
</tr>
</tbody>
</table>

* These subjects will be given a weighting of 1.2

NON-JUPAS Stream
Students holding non-HKDSE qualifications are considered individually.

More Information
For more information, please visit our website:
https://saasweb.hku.hk/programme/as.php

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