BSc in Actuarial Science

Syllabuses and Regulations

2025-2026

Faculty of Science
The University of Hong Kong

SECTION I Objectives and Learning Outcomes

Degree : Bachelor of Science in Actuarial Science

Objectives : The Actuarial Science curriculum aims at providing 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 such as probability, statistics, economics, investment, finance, law, taxation, and accounting. The Actuarial Science curriculum reflects this by incorporating various interdisciplinary courses into the basic actuarial training. The programme is set up to equip students with solid background in actuarial science, to develop their confidence and analytical skills to define and tackle problems in actuarial science and other related fields. Specifically, the programme is designed to provide adequate knowledge for students to sit for the early professional examinations organized by international actuarial organizations so that they can successfully join the actuarial profession after graduation. In addition, the programme provides enough academic training for students who wish to pursue postgraduate studies in actuarial science or other related areas.

Learning Outcomes of Actuarial Science Programme

By the end of this 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, pension, financial risk management and demography
(by means of coursework and tutorial classes and/or research-based project in the curriculum)

(2) understand and identify the nature of insurance, finance and investment risks
(by means of coursework and tutorial classes and/or research-based project in the curriculum)

(3) develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues
(by means of coursework and tutorial classes and/or research-based project in the curriculum)

(4) formulate effective business strategies to manage various kinds of risk
(by means of coursework and tutorial classes and/or research-based project in the curriculum)

(5) communicate and collaborate with people effectively on issues related to actuarial science
(by means of coursework and tutorial classes and/or research-based project in the curriculum)

(6) discuss current actuarial issues and acquire and apply practical knowledge in some specially designed courses
(by means of coursework and tutorial classes and/or research-based project in the curriculum)

SECTION II Credit Unit Statement of the BSc(ActuarSc) Degree Curriculum

1. General guideline for contact hours requirement in the BSc (Actuarial Science) Degree Curriculum

(a) A 6-credit course has around 120-180 total study hours, including contact hours, study time, assignment and assessment.
(b) About 30% of the total study hours are actual contact hours in the form of a class, e.g. lecture hours.
(c) A 6-credit course has around 36 to 45 lecture hours.
(d) For lecture-based courses, normally there will be tutorial/discussion sessions.
(e) For courses employing a non-lecture or lab-based approach, e.g. IT-based or project-based courses, students are expected to devote about 120-180 hours for a 6-credit course.

2. Credit Unit Statement of the BSc (Actuarial Science) Degree Curriculum

The BSc(Actuarial Science) degree curriculum consists of five major types of courses based on the learning activities. The courses in the curriculum are 6 credits. Examples of the contact hours requirements for the five categories of courses are described as follows.

(a) Lecture-based courses (6 credits)
Contact hours: 36 hours of lectures and 12 hours of tutorial/discussion
These courses are taught predominantly by lectures and tutorials. Assessment is by a combination of examination (0-80%) and continuous assessment (20-100%). Continuous assessment tasks include written assignments (totaling no more than 8,000 words) such as essays and project reports, and oral presentations. Details of the assessment tasks can be found in the description of individual courses.

(b) Lecture with laboratory component courses (6 credits)
Contact hours for 6-credit course: 24 hours of lectures, 24 hours of laboratory and 6 hours of tutorial
These courses are taught by a combination of lectures and laboratory/practical sessions. Assessment is by a combination of examination (0-70%) and continuous assessment (30-100%). Continuous assessment tasks include written assignments (totaling no more than 8,000 words) such as essays, laboratory reports, and project reports, and oral presentations. Details of the assessment tasks can be found in the description of individual courses.

(c) Laboratory and Workshop courses (6 credits)
Contact hours: 48 hours of laboratory or workshop and 12 hours of tutorial
These courses aim at enriching the student's research skills and encourage group work through hands-on activities in which science research is introduced. Students are expected to spend an additional 100 hours on self-study, preparation work for the laboratory, and writing reports. Continuous assessment tasks (100%) include written assignments (totaling no more than 8,000 words) such as laboratory report for each experiment (normally no more than 10 experiments) and essays. Details of the assessment tasks can be found in the description of individual courses.

(d) Project-based courses (6 credits)
These courses aim at providing students with an opportunity to pursue their own research interest under the supervision of a teacher. The teacher normally meets with the student weekly to discuss project progress. Assessment task is normally through research reports or a dissertation (totaling no more than 10,000 words for a 6-credit course and 20,000 words for a 12-credit course). Oral presentation will form part of the assessment. Details of the assessment tasks can be found in the description of individual courses.

(e) Internship (6 credits)

Students have to undertake at least 6 months or 120 working days of internship work

Internships aim to offer students the opportunity to gain work experience related to their major of study. The teacher meets with the student regularly to discuss work progress. Students have to undertake at least 6 months or 120 working days of internship work arranged formally. Assessment tasks normally include the following outputs: a written report of no more than 2000 words and feedback from the internship supervisor and an oral presentation on students' internship experience. Details of the assessment tasks can be found in the description of individual courses.

SECTION III List of BASc(ActuarSc) Courses* on offer in 2025/2026 and 2026/2027^

Course Code	Title	Credit	Pre-requisite	Available in		Semester offered in 2025 - 2026	Exam. held in 2025 - 2026	Quota	Communication -intensive	Course Coordinator	Major / Minor *(The Major/Minor that this course appears as.)*			
				2025 - 2026	2026 - 2027	0=year long 1=1st sem 2=2nd sem S=Summer					*Disciplinary Core Course*	*Disciplinary Elective*	*Capstone - Disciplinary Core Course*	*Capstone - Disciplinary Elective*
Centre for Applied English Studies														
CAES1000	Core University English	6	NIL	N	N	---	---	---	Y	Dr A Yau, English				
CAES9820	Academic English for science students	6	NIL	Y	Y	1, 2	No exam	---	Y	Ms M Zee, English				
CAES9821	Professional and technical communication for statistical sciences	6	NIL	Y	Y	1, 2	No exam	---	Y	Ms M Zee, English				
School of Chinese														
CSCI9001	Practical Chinese for science students	6	NIL	Y	Y	1, 2	Dec, May	---	Y	Dr H F Poon, Chinese				
Department of Mathematics														
MATH1821	Mathematical methods for actuarial science I	6	Level 4 or above in HKDSE Mathematics plus Module 1, or Level 4 or above in HKDSE Mathematics plus Module 2, or equivalent; and Not for students who have passed MATH1013 or (MATH1851 and MATH1853), or have already enrolled in these courses. For BSc(ActuarSc) students only.	Y	Y	1	Dec	---	N	Dr K H Law, Mathematics	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)			
MATH2822	Mathematical methods for actuarial science II	6	Pass in MATH1821. For BSc(ActuarSc) students only.	Y	Y	2	May	---	N	Dr K H Law, Mathematics	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)			
SCDS (Department of Statistics and Actuarial Science)														
STAT2901	Probability and statistics: foundations of actuarial science	6	Pass in MATH1821 [for BSc(ActuarSc) students] or already enrolled in this course, or Pass in MATH1013 or already enrolled in this course [for students outside the BSc(ActuarSc) programme]; and Not for students who have passed or enrolled in any of these courses: STAT1601, STAT1602, STAT1603, STAT2601 Only for students admitted in 2024-25 or before.	Y	Y	2	May	---	N	Prof S M S Lee, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)	Minor in Actuarial Studies (2020,2019,2018)		
STAT2902	Financial mathematics	6	Pass in STAT2901, or already enrolled in this course; and Not for students who have passed in STAT3615, or already enrolled in this course. Only for students admitted in 2024-25 or before.	Y	Y	2	May	---	N	Prof K C Cheung, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)			
STAT3901	Life contingencies I	6	(Pass in STAT2602 and STAT3615) or (Pass in STAT2902 and (Pass in STAT3902 or already enrolled in this course)) or (Pass in STAT2602 and STAT2902) Only for students admitted in 2024-25 or before.	Y	Y	1	Dec	---	N	Dr K P Wat, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)	Minor in Actuarial Studies (2024,2023,2022,2021, 2020,2019,2018)		
STAT3902	Mathematical statistics	6	Pass in STAT2901; and Not for students who have passed in STAT2602, or already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.	Y	Y	1	Dec	---	N	Prof M Hofert, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)			
STAT3903	Stochastic models	6	Pass in STAT2901; and Not for students who have passed in MATH3603, or have already enrolled in this course; and Not for students who have passed in STAT3603, or have already enrolled in this course; and For BSc(Actuarial Science) students only.	Y	Y	2	May	---	N	Prof K Zhu, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)			

* This list only includes courses offered by the Department of Statistics & Actuarial Science and the Department of Mathematics and language courses.
^ Availability of courses in 2026-2027 is subject to change.

			Only for students admitted in 2024-25 or before.											
STAT3904	Corporate finance for actuarial science	6	[(Pass in ACCT1101 and STAT2902) or (Pass in STAT3615)]; and Not for students who have passed in FINA1310, or have already enrolled in this course. Only for students admitted in 2024-25 or before.	Y	Y	1	Dec	---	N	Dr D Lee, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)	Minor in Actuarial Studies (2024,2023,2022,2021, 2020,2019,2018)		
STAT3905	Introduction to financial derivatives	6	Pass in STAT2902; and Not for students who have passed or already enrolled in any of the following courses: FINA2322, MATH3906, STAT3618; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.	Y	Y	2	May	---	N	Prof T Boonen, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)			
STAT3906	Risk theory I	6	Pass in STAT3903, or already enrolled in this course; or Pass in MATH3603 or STAT3603 Only for students admitted in 2024-25 or before.	Y	Y	1	Dec	---	N	Prof K C Cheung, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)	Minor in Actuarial Studies (2024,2023,2022,2021, 2020,2019,2018)		
STAT3907	Linear models and forecasting	6	Pass in STAT2602 or STAT3902, or already enrolled in this course; and Not for students who have passed in STAT3600, or have already enrolled in this course; and Not for students who have passed in STAT4601, or have already enrolled in this course; and Not for students who have passed in ECON2280, or have already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.	Y	Y	2	May	---	N	Mr H Y Y Cheung, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)			
STAT3908	Credibility theory and loss modelling	6	Pass in STAT2602 or STAT3902 or STAT3906 Only for students admitted in 2024-25 or before.	Y	Y	2	May	---	N	Prof M Hofert, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)	Minor in Actuarial Studies (2024,2023,2022,2021, 2020,2019,2018)		
STAT3909	Life contingencies II	6	Pass in STAT3901, or already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.	Y	Y	2	May	---	N	Dr D Lee, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)			
STAT3910	Financial economics I	6	Pass in STAT2602 or STAT3902; and Not for students who have passed in FINA2322, or have already enrolled in this course; and Not for students who have passed in MATH3906, or have already enrolled in this course. Only for students admitted in 2024-25 or before.	Y	Y	1	Dec	---	N	Dr A Lo, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)	Minor in Actuarial Studies (2024,2023,2022,2021, 2020,2019,2018)		
STAT3911	Financial economics II	6	Pass in MATH3603 or STAT3603 or STAT3903 or STAT3910; and Not for students who have passed in MATH3906, or have already enrolled in this course. Only for students admitted in 2024-25 or before.	Y	Y	2	May	---	Y	Prof W Li, SCDS (Department of Statistics and Actuarial Science)		BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018); Major in Risk Management (2024,2023,2022,2021, 2020,2019,2018); Minor in Actuarial Studies (2024,2023,2022,2021, 2020,2019,2018)		
STAT3951	Topics on advanced actuarial modelling	6	Pass in STAT3906, or already enrolled in this course; and Pass in STAT3910, or already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.	Y	Y	2	May	---	N	Dr D Lee, SCDS (Department of Statistics and Actuarial Science)		BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)		
STAT3953	Fundamentals of actuarial practice	6	Pass in STAT3901. Only for students admitted in 2024-25 or before.	Y	Y	1	No exam	---	N	Dr K P Wat, SCDS (Department of Statistics and Actuarial Science)		BSc in Actuarial Science (2024,2023,2022,2021,		

												2020,2019,2018); Minor in Actuarial Studies (2024,2023,2022,2021, 2020,2019,2018)		
STAT3954	Current topics in actuarial science	6	Pass in STAT3901, or already enrolled in this course; or Pass in STAT3909, or already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.	N	N	---	---	---	N	TBC, SCDS (Department of Statistics and Actuarial Science)		BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)		
STAT3956	Life contingencies III	6	Pass in STAT3909; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.	Y	Y	1	Dec	---	N	Prof T Boonen, SCDS (Department of Statistics and Actuarial Science)		BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)		
STAT3957	Essential principles in actuarial modelling	6	Pass in STAT3901 or already enrolled in this course For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.	Y	Y	1	No exam	40	N	Mr K K L Chan, SCDS (Department of Statistics and Actuarial Science)				
STAT4711	Capstone experience for actuarial science undergraduates	6	Pass in at least 24 credits of advanced level disciplinary core/elective courses in BSc(Actuarial Science) programme including (Pass in STAT3901, or already enrolled in this course; or Pass in STAT3909, or already enrolled in this course); and This capstone course is only for BSc(Actuarial Science) students, and is mutually exclusive with STAT4767 and STAT4798. The earliest that a student is allowed to take this capstone course is their year 3 study. Only for students admitted in 2024-25 or before.	Y	Y	1, 2	No exam	50	N	Prof K C Cheung, SCDS (Department of Statistics and Actuarial Science)				BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)
STAT4767	Actuarial science internship	6	Pass in at least 24 credits of advanced level disciplinary core/elective courses in BSc(Actuarial Science) programme including STAT3901; and This capstone course is only for BSc(Actuarial Science) students; and is mutually exclusive with STAT4711. The earliest that a student is allowed to take this capstone course is their year 3 study. Only for students admitted in 2024-25 or before.	Y	Y	1, 2	No exam	---	Y	Dr E A L Li, SCDS (Department of Statistics and Actuarial Science)				BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)
STAT4798	Statistics and actuarial science project	6	Pass in at least 24 credits of advanced level disciplinary core/elective courses in BSc(Actuarial Science) programme including STAT3902 and STAT3907; and Pass or already enrolled in at least one of the following courses: STAT3911, STAT4602, STAT4904; and This capstone course is only for BSc(Actuarial Science) students; and subject to the consent of course coordinator. This course is mutually exclusive with STAT4711. The earliest that a student is allowed to take this capstone course is their year 3 study. Only for students admitted in 2024-25 or before.	Y	Y	1, 2	No exam	50	N	Prof S M S Lee, SCDS (Department of Statistics and Actuarial Science)				BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)
STAT4901	Risk theory II	6	Pass in STAT3906 Only for students admitted in 2024-25 or before.	N	N	---	---	---	N	TBC, SCDS (Department of Statistics and Actuarial Science)		BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)		
STAT4902	Selected topics in actuarial science	6	Pass in STAT3906 Only for students admitted in 2024-25 or before.	N	N	---	---	---	Y	TBC, SCDS (Department of Statistics and Actuarial Science)		BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)		

STAT4903	Actuarial techniques for general insurance	6	Pass in STAT3906, or already enrolled in this course. Only for students admitted in 2024-25 or before.	Y	Y	1	Dec	---	N	Dr D Lee, SCDS (Department of Statistics and Actuarial Science)		BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018); Minor in Actuarial Studies (2024,2023,2022,2021, 2020,2019,2018)		
STAT4904	Statistical learning for risk modelling	6	Pass in STAT3907 or STAT3600; and Not for students who have passed in STAT3612, or already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.	Y	Y	2	May	---	N	Dr A Lo, SCDS (Department of Statistics and Actuarial Science)	BSc in Actuarial Science (2024,2023,2022,2021, 2020,2019,2018)			
STAT7609	Research methods in statistics	6	Pass in STAT3600 or STAT3907 Only for students admitted in 2024-25 or before.	Y	Y	1	Dec	---	N	Prof K Zhu, SCDS (Department of Statistics and Actuarial Science)				
STAT7610	Advanced probability	6	Pass in STAT3603 or STAT3903 Only for students admitted in 2024-25 or before.	Y	Y	2	May	---	N	Prof M Hofert, SCDS (Department of Statistics and Actuarial Science)				
STAT7611	Computational statistics	6	Pass in STAT3600 or STAT3907 Only for students admitted in 2024-25 or before.	N	N	---	---	---	N	TBC, SCDS (Department of Statistics and Actuarial Science)				
STAT7614	Advanced statistical modelling	6	Pass in STAT3600 or STAT3907 Only for students admitted in 2024-25 or before.	N	N	---	---	---	N	Prof C Wang, SCDS (Department of Statistics and Actuarial Science)				
STAT7615	Advanced quantitative risk management and finance	6	Pass in STAT4608 Only for students admitted in 2024-25 or before.	N	N	---	---	---	N	TBC, SCDS (Department of Statistics and Actuarial Science)				

SECTION IV Equivalency of HKDSE and other qualifications

Table of Equivalence between HKDSE and Other Qualifications

<table>
<tr><th rowspan="2">HKDSE</th><th rowspan="2">Grade</th><th colspan="5">Equivalent Qualification to HKDSE</th></tr>
<tr><th>IB</th><th>GCE</th><th>SATII</th><th>AP</th><th>Gao Kao (高考)</th></tr>
<tr><td>Biology</td><td>3 or above</td><td>Biology (SL/HL)</td><td>Biology (AL)</td><td>Biology</td><td>Biology</td><td rowspan="5">Equivalent to fulfillment of all HKDSE requirements</td></tr>
<tr><td>Chemistry</td><td>3 or above</td><td>Chemistry (SL/HL)</td><td>Chemistry (AL)</td><td>Chemistry</td><td>Chemistry</td></tr>
<tr><td>Physics</td><td>3 or above</td><td>Physics (SL/HL)</td><td>Physics (AL)</td><td>Physics</td><td>Physics B or C</td></tr>
<tr><td>Mathematics</td><td>2 or above</td><td>Mathematics: analysis and approaches/ applications and interpretation (SL)</td><td>Mathematics (AL)</td><td>Mathematics Level 1 or 2</td><td></td></tr>
<tr><td>Mathematics + (M1 or M2)</td><td>2 or above</td><td>Mathematics: analysis and approaches/ applications and interpretation (HL)</td><td>Pure Mathematics (AL)
Further Mathematics (AL)</td><td></td><td>Calculus AB or BC</td></tr>
</table>

Note:
HL: Higher Level
SL: Standard Level
AL: Advanced Level

Remarks:

For science students admitted through non-JUPAS scheme, the equivalent subject qualification(s) to HKDSE, if possessed, can be identified by the SIS for on-line course selection.*

(Applicable to BSc, BSc&MRes, BSc&LLB, BSc(ActuarSc) (admitted in 2024-25 or before), and BASc(AppliedAI) (admitted in 2024-25 or before).*

For any non-science students admitted through non-JUPAS scheme, they are still required to obtain the approval from the Course Selection Adviser (or designated Course Approver) of the course offering department/school via Science Online Application Submission System (OASS) https://webapp.science.hku.hk/intranet/OnlineFormUG.html even they have possessed the equivalent HKDSE subject qualification(s) to meet the course prerequisite requirement. Once approval is given, they need to forward it to their home faculties to add the course on-line.

SECTION V BSc(ActuarSc) Programmes on offer in 2025/2026

Programme Title	BSc in Actuarial Science
Offered to students admitted to Year 1 in	**2024**

Objectives:

The Actuarial Science curriculum aims at providing 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 such as probability, statistics, economics, investment, finance, law, taxation, and accounting. The Actuarial Science curriculum reflects this by incorporating various interdisciplinary courses into the basic actuarial training. The programme is set up to equip students with solid background in actuarial science, to develop their confidence and analytical skills to define and tackle problems in actuarial science and other related fields. Specifically, the programme is designed to provide adequate knowledge for students to sit for the early professional examinations organized by international actuarial organizations so that they can successfully join the actuarial profession after graduation. In addition, the programme provides enough academic training for students who wish to pursue postgraduate studies in actuarial science or other related areas.

Learning Outcomes:

By the end of this programme, students should be able to:

- PLO 1 : understand and apply various analytic and quantitative methods to define and solve problems in insurance, finance, economics, investment, pension, financial risk management and demography (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 2 : understand and identify the nature of insurance, finance and investment risks (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 3 : develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 4 : formulate effective business strategies to manage various kinds of risk (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 5 : communicate and collaborate with people effectively on issues related to actuarial science (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 6 : discuss current actuarial issues and acquire and apply practical knowledge in some specially designed courses (by means of coursework and tutorial classes and/or research-based project in the curriculum)

Impermissible Combinations:

Minor in Actuarial Studies

Required courses (132 credits)

1. Year I Courses

Disciplinary Core Courses (42 credits)

ACCT1101	Introduction to financial accounting (6)	
ECON1210	Introductory microeconomics (6)	
ECON1220	Introductory macroeconomics (6)	
MATH1821	Mathematical methods for actuarial science I (6)	
MATH2822	Mathematical methods for actuarial science II (6)	
STAT2901	Probability and statistics: foundations of actuarial science (6)	
STAT2902	Financial mathematics (6)	

2. Year II Courses

Disciplinary Core Courses (42 credits)

COMP1117	Computer programming (6)	
STAT3901	Life contingencies I (6)	
STAT3902	Mathematical statistics (6)	*[previous title: Statistical models (6)]*
STAT3903	Stochastic models (6)	
STAT3904	Corporate finance for actuarial science (6)	
STAT3905	Introduction to financial derivatives (6)	
STAT3907	Linear models and forecasting (6)	

3. Year III Courses

Disciplinary Core Courses (30 credits)

STAT3906	Risk theory I (6)	
STAT3908	Credibility theory and loss modelling (6)	*[previous title: Credibility theory and loss distributions (6)]*
STAT3909	Life contingencies II (6)	
STAT3910	Financial economics I (6)	
STAT4904	Statistical learning for risk modelling (6)	

4. Year IV Courses

Disciplinary Electives (12 credits)

At least 12 credits selected from the following courses:

STAT3911	Financial economics II (6)
STAT3951	Topics on advanced actuarial modelling (6)
STAT3953	Fundamentals of actuarial practice (6)
STAT3954	Current topics in actuarial science (6)
STAT3956	Life contingencies III (6)
STAT4901	Risk theory II (6)
STAT4902	Selected topics in actuarial science (6)

STAT4903	Actuarial techniques for general insurance (6)

5. Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:

STAT4711	Capstone experience for actuarial science undergraduates (6)
STAT4767	Actuarial science internship (6)
STAT4798	Statistics and actuarial science project (6)

Notes:

1. 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.

2. Students may optionally take Majors or Minors outside the BSc(ActuarSc) programme, provided that they fully satisfy the requirements.

Remarks:

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.

Programme Title	BSc in Actuarial Science
Offered to students admitted to Year 1 in	**2023**

Objectives:

The Actuarial Science curriculum aims at providing 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 such as probability, statistics, economics, investment, finance, law, taxation, and accounting. The Actuarial Science curriculum reflects this by incorporating various interdisciplinary courses into the basic actuarial training. The programme is set up to equip students with solid background in actuarial science, to develop their confidence and analytical skills to define and tackle problems in actuarial science and other related fields. Specifically, the programme is designed to provide adequate knowledge for students to sit for the early professional examinations organized by international actuarial organizations so that they can successfully join the actuarial profession after graduation. In addition, the programme provides enough academic training for students who wish to pursue postgraduate studies in actuarial science or other related areas.

Learning Outcomes:

By the end of this programme, students should be able to:

PLO 1 : understand and apply various analytic and quantitative methods to define and solve problems in insurance, finance, economics, investment, pension, financial risk management and demography (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 2 : understand and identify the nature of insurance, finance and investment risks (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 3 : develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 4 : formulate effective business strategies to manage various kinds of risk (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 5 : communicate and collaborate with people effectively on issues related to actuarial science (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 6 : discuss current actuarial issues and acquire and apply practical knowledge in some specially designed courses (by means of coursework and tutorial classes and/or research-based project in the curriculum)

Impermissible Combinations:

Minor in Actuarial Studies

Required courses (132 credits)

1. Year I Courses

Disciplinary Core Courses (42 credits)

ACCT1101	Introduction to financial accounting (6)	
ECON1210	Introductory microeconomics (6)	
ECON1220	Introductory macroeconomics (6)	
MATH1821	Mathematical methods for actuarial science I (6)	
MATH2822	Mathematical methods for actuarial science II (6)	
STAT2901	Probability and statistics: foundations of actuarial science (6)	
STAT2902	Financial mathematics (6)	

2. Year II Courses

Disciplinary Core Courses (42 credits)

COMP1117	Computer programming (6)	
STAT3901	Life contingencies I (6)	
STAT3902	Mathematical statistics (6)	*[previous title: Statistical models (6)]*
STAT3903	Stochastic models (6)	
STAT3904	Corporate finance for actuarial science (6)	
STAT3905	Introduction to financial derivatives (6)	
STAT3907	Linear models and forecasting (6)	

3. Year III Courses

Disciplinary Core Courses (30 credits)

STAT3906	Risk theory I (6)	
STAT3908	Credibility theory and loss modelling (6)	*[previous title: Credibility theory and loss distributions (6)]*
STAT3909	Life contingencies II (6)	
STAT3910	Financial economics I (6)	
STAT4904	Statistical learning for risk modelling (6)	

4. Year IV Courses

Disciplinary Electives (12 credits)

At least 12 credits selected from the following courses:

STAT3911	Financial economics II (6)
STAT3951	Topics on advanced actuarial modelling (6)
STAT3953	Fundamentals of actuarial practice (6)
STAT3954	Current topics in actuarial science (6)
STAT3956	Life contingencies III (6)
STAT4901	Risk theory II (6)
STAT4902	Selected topics in actuarial science (6)

STAT4903	Actuarial techniques for general insurance (6)

5. Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:

STAT4711	Capstone experience for actuarial science undergraduates (6)
STAT4767	Actuarial science internship (6)
STAT4798	Statistics and actuarial science project (6)

Notes:

1. 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.

2. Students may optionally take Majors or Minors outside the BSc(ActuarSc) programme, provided that they fully satisfy the requirements.

Remarks:

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.

Programme Title	BSc in Actuarial Science
Offered to students admitted to Year 1 in	**2022**

Objectives:

The Actuarial Science curriculum aims at providing 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 such as probability, statistics, economics, investment, finance, law, taxation, and accounting. The Actuarial Science curriculum reflects this by incorporating various interdisciplinary courses into the basic actuarial training. The programme is set up to equip students with solid background in actuarial science, to develop their confidence and analytical skills to define and tackle problems in actuarial science and other related fields. Specifically, the programme is designed to provide adequate knowledge for students to sit for the early professional examinations organized by international actuarial organizations so that they can successfully join the actuarial profession after graduation. In addition, the programme provides enough academic training for students who wish to pursue postgraduate studies in actuarial science or other related areas.

Learning Outcomes:

By the end of this programme, students should be able to:

PLO 1 : understand and apply various analytic and quantitative methods to define and solve problems in insurance, finance, economics, investment, pension, financial risk management and demography (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 2 : understand and identify the nature of insurance, finance and investment risks (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 3 : develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 4 : formulate effective business strategies to manage various kinds of risk (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 5 : communicate and collaborate with people effectively on issues related to actuarial science (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 6 : discuss current actuarial issues and acquire and apply practical knowledge in some specially designed courses (by means of coursework and tutorial classes and/or research-based project in the curriculum)

Impermissible Combinations:

Minor in Actuarial Studies

Required courses (132 credits)

1. Year I Courses

Disciplinary Core Courses (42 credits)

ACCT1101	Introduction to financial accounting (6)	
ECON1210	Introductory microeconomics (6)	
ECON1220	Introductory macroeconomics (6)	
MATH1821	Mathematical methods for actuarial science I (6)	
MATH2822	Mathematical methods for actuarial science II (6)	
STAT2901	Probability and statistics: foundations of actuarial science (6)	
STAT2902	Financial mathematics (6)	

2. Year II Courses

Disciplinary Core Courses (42 credits)

COMP1117	Computer programming (6)	
STAT3901	Life contingencies I (6)	
STAT3902	Mathematical statistics (6)	*[previous title: Statistical models (6)]*
STAT3903	Stochastic models (6)	
STAT3904	Corporate finance for actuarial science (6)	
STAT3905	Introduction to financial derivatives (6)	
STAT3907	Linear models and forecasting (6)	

3. Year III Courses

Disciplinary Core Courses (30 credits)

STAT3906	Risk theory I (6)	
STAT3908	Credibility theory and loss modelling (6)	*[previous title: Credibility theory and loss distributions (6)]*
STAT3909	Life contingencies II (6)	
STAT3910	Financial economics I (6)	
STAT4904	Statistical learning for risk modelling (6)	

4. Year IV Courses

Disciplinary Electives (12 credits)

At least 12 credits selected from the following courses:

STAT3911	Financial economics II (6)	
STAT3951	Topics on advanced actuarial modelling (6)	*[previous title: Further topics in contingencies to new course name (6)]*
STAT3953	Fundamentals of actuarial practice (6)	
STAT3954	Current topics in actuarial science (6)	
STAT3956	Life contingencies III (6)	*[previous title: Pension funds and pension mathematics to new course name (6)]*

STAT4901	Risk theory II (6)
STAT4902	Selected topics in actuarial science (6)
STAT4903	Actuarial techniques for general insurance (6)

5. Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:

STAT4711	Capstone experience for actuarial science undergraduates (6)
STAT4767	Actuarial science internship (6)
STAT4798	Statistics and actuarial science project (6)

Notes:

1. 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.

2. Students may optionally take Majors or Minors outside the BSc(ActuarSc) programme, provided that they fully satisfy the requirements.

Remarks:

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.

Programme Title	BSc in Actuarial Science
Offered to students admitted to Year 1 in	**2021**

Objectives:

The Actuarial Science curriculum aims at providing 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 such as probability, statistics, economics, investment, finance, law, taxation, and accounting. The Actuarial Science curriculum reflects this by incorporating various interdisciplinary courses into the basic actuarial training. The programme is set up to equip students with solid background in actuarial science, to develop their confidence and analytical skills to define and tackle problems in actuarial science and other related fields. Specifically, the programme is designed to provide adequate knowledge for students to sit for the early professional examinations organized by international actuarial organizations so that they can successfully join the actuarial profession after graduation. In addition, the programme provides enough academic training for students who wish to pursue postgraduate studies in actuarial science or other related areas.

Learning Outcomes:

By the end of this programme, students should be able to:

PLO 1 : understand and apply various analytic and quantitative methods to define and solve problems in insurance, finance, economics, investment, pension, financial risk management and demography (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 2 : understand and identify the nature of insurance, finance and investment risks (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 3 : develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 4 : formulate effective business strategies to manage various kinds of risk (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 5 : communicate and collaborate with people effectively on issues related to actuarial science (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 6 : discuss current actuarial issues and acquire and apply practical knowledge in some specially designed courses (by means of coursework and tutorial classes and/or research-based project in the curriculum)

Impermissible Combinations:

Minor in Actuarial Studies

Required courses (132 credits)

1. Year I Courses

Disciplinary Core Courses (42 credits)

ACCT1101	Introduction to financial accounting (6)	
ECON1210	Introductory microeconomics (6)	
ECON1220	Introductory macroeconomics (6)	
MATH1821	Mathematical methods for actuarial science I (6)	
MATH2822	Mathematical methods for actuarial science II (6)	
STAT2901	Probability and statistics: foundations of actuarial science (6)	
STAT2902	Financial mathematics (6)	

2. Year II Courses

Disciplinary Core Courses (42 credits)

COMP1117	Computer programming (6)	
STAT3901	Life contingencies I (6)	
STAT3902	Mathematical statistics (6)	*[previous title: Statistical models (6)]*
STAT3903	Stochastic models (6)	
STAT3904	Corporate finance for actuarial science (6)	
STAT3905	Introduction to financial derivatives (6)	
STAT3907	Linear models and forecasting (6)	

3. Year III Courses

Disciplinary Core Courses (30 credits)

STAT3906	Risk theory I (6)	
STAT3908	Credibility theory and loss modelling (6)	*[previous title: Credibility theory and loss distributions (6)]*
STAT3909	Life contingencies II (6)	
STAT3910	Financial economics I (6)	
STAT4904	Statistical learning for risk modelling (6)	

4. Year IV Courses

Disciplinary Electives (12 credits)

At least 12 credits selected from the following courses:

STAT3911	Financial economics II (6)	
STAT3951	Topics on advanced actuarial modelling (6)	*[previous title: Further topics in contingencies to new course name (6)]*
STAT3953	Fundamentals of actuarial practice (6)	
STAT3954	Current topics in actuarial science (6)	
STAT3956	Life contingencies III (6)	*[previous title: Pension funds and pension mathematics to new course name (6)]*

STAT4901	Risk theory II (6)
STAT4902	Selected topics in actuarial science (6)
STAT4903	Actuarial techniques for general insurance (6)

5. Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:

STAT4711	Capstone experience for actuarial science undergraduates (6)
STAT4767	Actuarial science internship (6)
STAT4798	Statistics and actuarial science project (6)

Notes:

1. 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.

2. Students may optionally take Majors or Minors outside the BSc(ActuarSc) programme, provided that they fully satisfy the requirements.

Remarks:

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.

Programme Title	BSc in Actuarial Science
Offered to students admitted to Year 1 in	**2020**

Objectives:

The Actuarial Science curriculum aims at providing 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 such as probability, statistics, economics, investment, finance, law, taxation, and accounting. The Actuarial Science curriculum reflects this by incorporating various interdisciplinary courses into the basic actuarial training. The programme is set up to equip students with solid background in actuarial science, to develop their confidence and analytical skills to define and tackle problems in actuarial science and other related fields. Specifically, the programme is designed to provide adequate knowledge for students to sit for the early professional examinations organized by international actuarial organizations so that they can successfully join the actuarial profession after graduation. In addition, the programme provides enough academic training for students who wish to pursue postgraduate studies in actuarial science or other related areas.

Learning Outcomes:

By the end of this programme, students should be able to:

- PLO 1 : understand and apply various analytic and quantitative methods to define and solve problems in insurance, finance, economics, investment, pension, financial risk management and demography (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 2 : understand and identify the nature of insurance, finance and investment risks (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 3 : develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 4 : formulate effective business strategies to manage various kinds of risk (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 5 : communicate and collaborate with people effectively on issues related to actuarial science (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 6 : discuss current actuarial issues and acquire and apply practical knowledge in some specially designed courses (by means of coursework and tutorial classes and/or research-based project in the curriculum)

Impermissible Combinations:

Minor in Actuarial Studies

Required courses (132 credits)

1. Year I Courses

Disciplinary Core Courses (42 credits)

ACCT1101	Introduction to financial accounting (6)	
ECON1210	Introductory microeconomics (6)	
ECON1220	Introductory macroeconomics (6)	
MATH1821	Mathematical methods for actuarial science I (6)	
MATH2822	Mathematical methods for actuarial science II (6)	
STAT2901	Probability and statistics: foundations of actuarial science (6)	
STAT2902	Financial mathematics (6)	

2. Year II Courses

Disciplinary Core Courses (42 credits)

COMP1117	Computer programming (6)	
STAT3901	Life contingencies I (6)	
STAT3902	Mathematical statistics (6)	*[previous title: Statistical models (6)]*
STAT3903	Stochastic models (6)	
STAT3904	Corporate finance for actuarial science (6)	
STAT3905	Introduction to financial derivatives (6)	
STAT3907	Linear models and forecasting (6)	

3. Year III Courses

Disciplinary Core Courses (30 credits)

STAT3906	Risk theory I (6)	
STAT3908	Credibility theory and loss modelling (6)	*[previous title: Credibility theory and loss distributions (6)]*
STAT3909	Life contingencies II (6)	
STAT3910	Financial economics I (6)	
STAT4904	Statistical learning for risk modelling (6)	

4. Year IV Courses

Disciplinary Electives (12 credits)

At least 12 credits selected from the following courses:

STAT3911	Financial economics II (6)	
STAT3951	Topics on advanced actuarial modelling (6)	*[previous title: Further topics in contingencies to new course name (6)]*
STAT3953	Fundamentals of actuarial practice (6)	
STAT3954	Current topics in actuarial science (6)	
STAT3956	Life contingencies III (6)	*[previous title: Pension funds and pension mathematics to new course name (6)]*

STAT4901	Risk theory II (6)
STAT4902	Selected topics in actuarial science (6)
STAT4903	Actuarial techniques for general insurance (6)

5. Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:

STAT4711	Capstone experience for actuarial science undergraduates (6)
STAT4767	Actuarial science internship (6)
STAT4798	Statistics and actuarial science project (6)

Notes:

1. 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.

2. Students may optionally take Majors or Minors outside the BSc(ActuarSc) programme, provided that they fully satisfy the requirements.

Remarks:

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.

Programme Title	BSc in Actuarial Science
Offered to students admitted to Year 1 in	**2019**

Objectives:

The Actuarial Science curriculum aims at providing 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 such as probability, statistics, economics, investment, finance, law, taxation, and accounting. The Actuarial Science curriculum reflects this by incorporating various interdisciplinary courses into the basic actuarial training. The programme is set up to equip students with solid background in actuarial science, to develop their confidence and analytical skills to define and tackle problems in actuarial science and other related fields. Specifically, the programme is designed to provide adequate knowledge for students to sit for the early professional examinations organized by international actuarial organizations so that they can successfully join the actuarial profession after graduation. In addition, the programme provides enough academic training for students who wish to pursue postgraduate studies in actuarial science or other related areas.

Learning Outcomes:

By the end of this programme, students should be able to:

- PLO 1 : understand and apply various analytic and quantitative methods to define and solve problems in insurance, finance, economics, investment, pension, financial risk management and demography (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 2 : understand and identify the nature of insurance, finance and investment risks (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 3 : develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 4 : formulate effective business strategies to manage various kinds of risk (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 5 : communicate and collaborate with people effectively on issues related to actuarial science (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- PLO 6 : discuss current actuarial issues and acquire and apply practical knowledge in some specially designed courses (by means of coursework and tutorial classes and/or research-based project in the curriculum)

Impermissible Combinations:

Minor in Actuarial Studies

Required courses (132 credits)

1. Year I Courses

Disciplinary Core Courses (42 credits)

ACCT1101	Introduction to financial accounting (6)	
ECON1210	Introductory microeconomics (6)	
ECON1220	Introductory macroeconomics (6)	
MATH1821	Mathematical methods for actuarial science I (6)	
MATH2822	Mathematical methods for actuarial science II (6)	
STAT2901	Probability and statistics: foundations of actuarial science (6)	
STAT2902	Financial mathematics (6)	

2. Year II Courses

Disciplinary Core Courses (42 credits)

COMP1117	Computer programming (6)	
STAT3901	Life contingencies I (6)	
STAT3902	Mathematical statistics (6)	
STAT3903	Stochastic models (6)	
STAT3904	Corporate finance for actuarial science (6)	
STAT3905	Introduction to financial derivatives (6)	
STAT3907	Linear models and forecasting (6)	

3. Year III Courses

Disciplinary Core Courses (30 credits)

STAT3906	Risk theory I (6)	
STAT3908	Credibility theory and loss modelling (6)	
STAT3909	Life contingencies II (6)	
STAT3910	Financial economics I (6)	
STAT4904	Statistical learning for risk modelling (6)	

4. Year IV Courses

Disciplinary Electives (12 credits)

At least 12 credits selected from the following courses:

STAT3911	Financial economics II (6)	
STAT3951	Topics on advanced actuarial modelling (6)	*[previous title: Further topics in contingencies to new course name (6)]*
STAT3953	Fundamentals of actuarial practice (6)	
STAT3954	Current topics in actuarial science (6)	
STAT3955	Survival analysis (6)	
STAT3956	Life contingencies III (6)	*[previous title: Pension funds and pension mathematics to new course name (6)]*

STAT4607	Credit risk analysis (6)
STAT4608	Market risk analysis (6)
STAT4901	Risk theory II (6)
STAT4902	Selected topics in actuarial science (6)
STAT4903	Actuarial techniques for general insurance (6)

5. Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:

STAT4711	Capstone experience for actuarial science undergraduates (6)
STAT4767	Actuarial science internship (6)
STAT4798	Statistics and actuarial science project (6)

Notes:

1. 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.

2. Students may optionally take Majors or Minors outside the BSc(ActuarSc) programme, provided that they fully satisfy the requirements.

Remarks:

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.

Programme Title	BSc in Actuarial Science
Offered to students admitted to Year 1 in	**2018**

Objectives:

The Actuarial Science curriculum aims at providing 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 such as probability, statistics, economics, investment, finance, law, taxation, and accounting. The Actuarial Science curriculum reflects this by incorporating various interdisciplinary courses into the basic actuarial training. The programme is set up to equip students with solid background in actuarial science, to develop their confidence and analytical skills to define and tackle problems in actuarial science and other related fields. Specifically, the programme is designed to provide adequate knowledge for students to sit for the early professional examinations organized by international actuarial organizations so that they can successfully join the actuarial profession after graduation. In addition, the programme provides enough academic training for students who wish to pursue postgraduate studies in actuarial science or other related areas.

Learning Outcomes:

By the end of this programme, students should be able to:

PLO 1 : understand and apply various analytic and quantitative methods to define and solve problems in insurance, finance, economics, investment, pension, financial risk management and demography (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 2 : understand and identify the nature of insurance, finance and investment risks (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 3 : develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 4 : formulate effective business strategies to manage various kinds of risk (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 5 : communicate and collaborate with people effectively on issues related to actuarial science (by means of coursework and tutorial classes and/or research-based project in the curriculum)

PLO 6 : discuss current actuarial issues and acquire and apply practical knowledge in some specially designed courses (by means of coursework and tutorial classes and/or research-based project in the curriculum)

Impermissible Combinations:

Minor in Actuarial Studies

Required courses (132 credits)

1. Year I Courses

Disciplinary Core Courses (42 credits)

ACCT1101	Introduction to financial accounting (6)	
ECON1210	Introductory microeconomics (6)	
ECON1220	Introductory macroeconomics (6)	
MATH1821	Mathematical methods for actuarial science I (6)	
MATH2822	Mathematical methods for actuarial science II (6)	
STAT2901	Probability and statistics: foundations of actuarial science (6)	
STAT2902	Financial mathematics (6)	

2. Year II Courses

Disciplinary Core Courses (42 credits)

COMP1117	Computer programming (6)	
STAT3901	Life contingencies I (6)	
STAT3902	Mathematical statistics (6)	
STAT3903	Stochastic models (6)	
STAT3904	Corporate finance for actuarial science (6)	
STAT3905	Introduction to financial derivatives (6)	
STAT3907	Linear models and forecasting (6)	

3. Year III Courses

Disciplinary Core Courses (30 credits)

STAT3906	Risk theory I (6)	
STAT3908	Credibility theory and loss modelling (6)	
STAT3909	Life contingencies II (6)	
STAT3910	Financial economics I (6)	
STAT4904	Statistical learning for risk modelling (6)	

4. Year IV Courses

Disciplinary Electives (12 credits)

At least 12 credits selected from the following courses:

STAT3911	Financial economics II (6)	
STAT3951	Topics on advanced actuarial modelling (6)	*[previous title: Further topics in contingencies to new course name (6)]*
STAT3953	Fundamentals of actuarial practice (6)	
STAT3954	Current topics in actuarial science (6)	
STAT3955	Survival analysis (6)	
STAT3956	Life contingencies III (6)	*[previous title: Pension funds and pension mathematics to new course name (6)]*

STAT4607	Credit risk analysis (6)
STAT4608	Market risk analysis (6)
STAT4901	Risk theory II (6)
STAT4902	Selected topics in actuarial science (6)
STAT4903	Actuarial techniques for general insurance (6)

5. Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:

STAT4711	Capstone experience for actuarial science undergraduates (6)
STAT4767	Actuarial science internship (6)
STAT4798	Statistics and actuarial science project (6)

Notes:

1. 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.

2. Students may optionally take Majors or Minors outside the BSc(ActuarSc) programme, provided that they fully satisfy the requirements.

Remarks:

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.

CAES1000	**Core University English (6 credits)**	**Academic Year**	2025
Offering Department	English	**Quota**	---
Course Co-ordinator	Dr A Yau, English *(aliceyhy@hku.hk)*		
Teachers Involved	(Dr A Yau,Centre for Applied English Studies)		
Course Objectives			
Course Contents & Topics	The Core University English (CUE) course aims to enhance first-year students' academic English language proficiency in the university context. CUE focuses on developing students' academic English language skills for the Common Core Curriculum. These include the language skills needed to understand and produce spoken and written academic texts, express academic ideas and concepts clearly and in a well-structured manner and search for and use academic sources of information in their writing and speaking. Four online-learning modules through the Moodle platform on academic speaking, academic grammar, academic vocabulary, citation and referencing skills and avoiding plagiarism will be offered to students to support their English learning. This course will help students to participate more effectively in their first-year university studies in English, thereby enriching their first-year experience.		

Course Learning Outcomes

On successful completion of this course, students should be able to:

CLO 1	identify and distinguish between main ideas and supporting details in lectures and written texts and demonstrate an understanding of the arguments / facts expressed
CLO 2	form and express personal opinions through critical reading and listening
CLO 3	argue for and defend a position in a clear and structured way using academic sources, through writing and speaking
CLO 4	demonstrate control of grammatical accuracy and lexical appropriacy in academic communication

Pre-requisites (and Co-requisites and Impermissible combinations)	NIL		
Offer in 2025 - 2026	N Offer in 2026 - 2027 : N	**Examination**	---

Grade Descriptors (A+ to F)

A	Excellent to outstanding result. Students are able to produce spoken and written academic texts which are at all times appropriately structured. Students can clearly and concisely explain academic concepts and critically argue for a detailed position. Students always use appropriate academic sources to support their ideas in writing and speaking. They cite and reference correctly at all times. Students demonstrate an ability to fully comprehend and critically interpret spoken and written texts. Written language contains very few, if any, systematic errors in grammar and vocabulary. Spoken language is always comprehensible and fluent.
B	Good to very good result. Students are able to produce spoken and written academic texts which are appropriately structured with only minor errors. Students can almost always clearly and concisely explain academic concepts and almost always critically argue for a detailed position. Students almost always use appropriate academic sources to support their ideas in writing and speaking. They cite and reference correctly with only a few non-systematic errors. Students can comprehend and interpret texts with ease, although they may miss some implied meanings and opinions. Written language is mostly accurate but contains a few systematic errors in complex grammar and vocabulary. Spoken language is mostly comprehensible and fluent.
C	Satisfactory to reasonably good result. Spoken and written academic texts produced by students are sometimes not-well structured but there is some evidence of this ability. Students are sometimes unable to clearly and concisely explain academic concepts. While they can argue for a position, it is not very detailed and tend to be simplistic rather than critical. Students sometimes use sources which are nonacademic and/or not appropriate to support their ideas in writing and speaking. There are some systematic errors in citation and referencing but also evidence of correct systematic use. Students have some difficulty comprehending and critically interpreting texts. They can always understand the main ideas but may miss some of the writer's views and attitudes. Written language is sometimes inaccurate, although errors, when they occur, are more often in complex grammar and vocabulary and there is some evidence of control of simple grammatical structures. Spoken language is generally comprehensible and fluent but at times places strain on the listener.
D	Barely satisfactory result. Spoken and written academic texts produced by students are often inappropriately structured but there may be some evidence of this ability. Students are often unable to clearly and concisely explain academic concepts and argue for a position. There is some evidence of an ability to explain academic concepts but not to critically argue for a position. Students often use sources which are nonacademic and/or not appropriate to support their ideas in writing and speaking. There are many systematic errors in citation and referencing however there is evidence of an understanding of some of the conventions of citation and referencing. Students often have difficulty comprehending and interpreting texts, sometimes failing to understand the main ideas and writer's views and attitudes. Written language is often inaccurate containing errors in a range of simple and complex grammar and vocabulary. Spoken language is only sometimes comprehensible and fluent, and strain is frequently placed on the listener.
Fail	Unsatisfactory result. Productive skills are too limited to be able to successfully carry out spoken and written assessments. Texts are unstructured and unclear. Students are unable to follow and interpret texts. There are language errors in almost every sentence. Spoken language is often incomprehensible. Assessments may not have been attempted or contain plagiarism.

Communication-intensive Course	Y
Course Type	Lecture-based course

Course Teaching & Learning Activities

Activities	**Details**	**No. of Hours**
Lectures		30
Tutorials		6
Reading / Self study		84

Assessment Methods and Weighting

Methods	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
Assignments	report	40	
Essay		30	
Presentation	individual presentation	30	

CAES9820	**Academic English for science students (6 credits)**	**Academic Year**	2025
Offering Department	English	**Quota**	---
Course Co-ordinator	Ms M Zee, English *(melaniez@hku.hk)*		
Teachers Involved	(Ms M Zee,Centre for Applied English Studies)		
Course Objectives	This 6-credit English-in-the-Discipline course aims to develop students' professional and technical communication skills for disciplinary studies in the sciences. There are three main components in the course: 1) Writing a popular science article 2) An oral presentation and 3) Independent language learning. Students will learn rhetorical skills for presenting and explaining scientific concepts to a cross-disciplinary and non-specialist audience in both written and spoken communication. Students will also be given an opportunity to design a personalised language learning plan, carry out the plan and reflect on their own independent language learning experience.		
Course Contents & Topics	Topics covered in the course will be: - Finding, evaluating and using appropriate academic source materials; - Compiling an academic bibliography; - Contrasting academic and popular genres of Science; - Writing for a specific audience, including stance, shared knowledge, levels of formality; and - Organizing and articulating ideas in an academically suitable format including appropriate vocabulary and grammar; and - Critically examine their own language proficiency and analyze how that relates to their ability to perform successfully within their discipline. Developing self-directed learning strategies.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 identify and summarize disciplinary sources related to a specified topic CLO 2 produce texts (written and spoken) appropriate for a cross-disciplinary audience based on their disciplinary knowledge CLO 3 identify their own language learning needs and implement a plan to meet those needs		
Pre-requisites (and Co-requisites and Impermissible combinations)	NIL		
Offer in 2025 - 2026	Y 1st sem 2nd sem Offer in 2026 - 2027 : Y	**Examination**	No Exam
Grade Descriptors (A+ to F)	**A** Excellent result. Consistently demonstrates ability to summarize salient points accurately from appropriate and reliable sources using original language. Text uses sources appropriately and demonstrates accurate and appropriate grammatical, lexical and organizational characteristics. Language learning needs are clearly identified and aligned with evidence of planning, self-study and reflection. **B** Good to very good result. Usually demonstrates ability to summarize salient points accurately using mostly original language. Text mostly uses sources appropriately and demonstrates mostly accurate and appropriate grammatical, lexical and organizational characteristics. Language learning needs are stated with some reference to evidence of planning and reflection although there is some misalignment between goals and self-study completed. **C** Satisfactory to reasonably good result. Demonstrates some ability to summarize salient points using mostly original language although some inaccuracies are present. Text uses some sources appropriately and demonstrates appropriate but simple grammatical and lexical characteristics with some organizational flaws. Language learning needs are stated with some limited evidence of planning and reflection but goals and self-study are misaligned. **D** Barely satisfactory result. Demonstrates a limited ability to summarize salient points from sources with inaccuracies and little original language. Text uses sources inappropriately and demonstrates grammatical inaccuracy, inappropriate lexical choices and organizational flaws. There is a minimal statement of language learning needs, planning and reflection with little or no apparent alignment between goals and self-study. **Fail** Unsatisfactory result. Does not demonstrate ability to summarize salient points identify, interpret or appropriately paraphrase reliable sources. Text uses no sources and demonstrates serious grammatical, lexical and/or organizational errors. Does not demonstrate any meaningful attempt to identify language learning needs or implement a plan.		
Communication-intensive Course	Y		
Course Type	Lecture-based course		

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Tutorials	seminars	36
Reading / Self study		120
Assessment	independent learning work	84

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Test		25	
Assignments	independent learning work	20	
Essay	other genres of writing	55	

Required/recommended reading and online materials	Course materials to be provided electronically through course website.
Course Website	http://caes.hku.hk/caes9820/
Additional Course Information	This a compulsory course for all students studying undergraduate degrees in the Faculty of Science.

CAES9821	**Professional and technical communication for statistical sciences (6 credits)**	**Academic Year**	2025
Offering Department	English	**Quota**	---
Course Co-ordinator	Ms M Zee, English *(melaniez@hku.hk)*		
Teachers Involved	(Ms M Zee,Centre for Applied English Studies)		
Course Objectives	This 6-credit English-in-the-Discipline course aims to develop students' professional and technical communication skills for disciplinary studies in statistical sciences. There are two main components in the course: 1). Case study report writing, 2). professional oral presentation. Students will learn rhetorical skills for presenting and explaining statistical data and trends, and justifying analyses and recommendations convincingly in both written and spoken communication. This will be achieved through analysing samples of case study reports and presentations using a genre-based approach. Students of the BSc(Actuarial Science) and BASc(Applied AI) are required to take this course. Students who intend to major in decision analytics, risk management, and statistics are strongly encouraged to take this course. Knowledge of linear statistical modelling, covered in courses such as STAT3600 and STAT3907, is recommended but not assumed. Students majoring in mathematics may take this course if they are interested in broadening their computational skills acquired from their discipline to include effective communication in data analytics. Students from other science disciplines should take CAES9820.		
Course Contents & Topics	There are two main components in the course: 1. Case study report writing 2. Professional oral presentation Students will learn rhetorical skills for presenting and explaining mathematical and statistical data and trends, and justifying analyses and recommendations convincingly in both written and spoken communication. This will be achieved through analysing samples of case study reports and presentations using a genre-based approach.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 present and explain mathematical and statistical data and trends using appropriate rhetorical skills CLO 2 organize and articulate coherent ideas with appropriate language devices in a case study report and an oral presentation CLO 3 justify analyses and recommendations convincingly in a case study report and an oral presentation CLO 4 identify their own language learning needs, develop independent learning strategies to address those needs, and reflect on their own independent language learning experience		
Pre-requisites (and Co-requisites and Impermissible combinations)	NIL		
Offer in 2025 - 2026	Y 1st sem 2nd sem Offer in 2026 - 2027 : Y	**Examination**	No Exam
Grade Descriptors (A+ to F)	**A** Wholly appropriate productive skills displaying a complete awareness of audience, purpose and structure across all disciplinary work. Students are able to critically analyse a case scenario, convincingly justify analyses and recommendations, and discuss data limitations when relevant. Students are able to successfully evaluate their language performance in all areas and propose specific and relevant future language learning plans. Spoken language is fully comprehensible and fluent. Written language contains a sophisticated range of grammar and vocabulary, with very few systematic errors. **B** Mostly appropriate productive skills displaying good awareness of audience, purpose and structure, although there are occasional lapses in areas. Students are able to analyse a case scenario, justify analyses and recommendations, and discuss data limitations when relevant. Students are able to evaluate their language performance in most areas and propose relevant future language learning plans. Spoken language is comprehensible and fluent. Written language contains a good range of grammar and vocabulary, making some systematic errors of language which generally do not impede understanding. **C** Productive skills are generally appropriate for the intended audience. There is an overall sense that the work is communicating successfully. Purposes are generally clear and tone is generally suitable. Students are generally able to analyse a case scenario and make recommendations, but the analysis and recommendations need more justification. Students are able to evaluate their language performance in a limited number of areas and proposed future language learning plans are rather vague. Spoken language is generally comprehensible and fluent. Written language contains inaccuracies when complex grammar and vocabulary are used. **D** Productive skills display weaknesses in awareness of purpose and audience. Tone is at times unsuitable. Students superficially analyse a case scenario, and the analyses and recommendations are vague. The structure is generally appropriate although links between sections may be lacking. Students are able to evaluate their language performance only in few areas and the proposed future language learning plans may not be relevant. Written language contains frequent errors in complex grammar and vocabulary, but the written work can still be followed by a patient and sympathetic audience. Spoken language is comprehensible and quite fluent, but stain is at times placed on the listener. **Fail** Productive skills show little or no awareness of audience or are too limited to be able to successfully carry out tasks. Students are unable to analyse a case scenario and make reasonable recommendations. Ideas are incoherent, vague and unstructured. Students are not able to evaluate their language performance and propose future language learning plans. There are frequent language errors in both simple and complex grammar in written work, which impede successful comprehension of ideas and points. Spoken language places considerable strain on the listener throughout. Assessments may not have been attempted or contain plagiarism.		
Communication-intensive Course	Y		
Course Type	Lecture-based course		

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures	seminars	30
Tutorials	small group tutorials	6
Reading / Self study		120
Assessment	independent learning work	84

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Assignments		40	
Project reports		30	
Presentation		30	

Additional Course Information

Students of the BSc (Actuarial Science) and BASc(Applied AI) are required to take this course. Students who intend to major in decision analytics, mathematics, risk management, and statistics are strongly encouraged to take this course. Students from other science disciplines should take CAES9820.

CSCI9001	Practical Chinese for science students (6 credits)	Academic Year	2025
Offering Department	Chinese	**Quota**	---
Course Co-ordinator	Dr H F Poon, Chinese *(hfpoon@hku.hk)*		
Teachers Involved	(Dr C M Chan,Chinese) (Dr K T Lam,Chinese) (Dr S F Lee,Chinese) (Mr K W Wong,Chinese)		
Course Objectives	This course aims to enhance the students' competence using Chinese for professional communication. It helps the students to master the techniques of writing different types of documents such as memos, emails, letters, announcements, notice, brochures, leaflets, and reports. In addition, topics addressing resentation and discussion techniques, the style and rhetoric of reader-based writings are included to heighten the students' linguistic sensitivity.		
Course Contents & Topics	- Grammar & vocabulary of modern Chinese - The Chinese writing system - Techniques of writing short messages: good-news and goodwill messages, bad-news messages, and persuasive messages - Techniques of writing electronic documents: emails; presentations - Styles and rhetoric of reader-based reports, proposals and presentations		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 develop a balanced competency in modern Chinese and write well-formed sentences CLO 2 employ rhetorical devices and stylistics, as well as practical writing skills specific to their discipline CLO 3 explore new tactics of communication, initiate discussions and debates and address new challenges CLO 4 apply their disciplinary knowledge and their Chinese writing skills and professional presentation techniques analytically, critically and creatively in different social or professional discourses		
Pre-requisites (and Co-requisites and Impermissible combinations)	NIL		
Offer in 2025 - 2026	Y 1st sem 2nd sem Offer in 2026 - 2027 : Y	**Examination**	Dec May
Grade Descriptors (A+ to F)	**A** The student acquired a superb ability to achieve the intended learning outcomes of the course at all levels of learning: describe, apply, evaluate, and synthesize the language techniques for effective communication in all situations. **B** The student acquired the ability to achieve the intended learning outcomes of the course at all levels of learning: describe, apply, evaluate, and synthesize the language techniques for effective communication in most situations. **C** The student acquired adequate ability to achieve the intended learning outcomes of the course at low levels of learning (i.e. describe and apply the language techniques for effective communication) but not at high levels of learning (i.e. evaluate and synthesize the language techniques for effective communication). **D** The student only has basic familiarity with the subject. **Fail** The student has very limited familiarity with the subject.		
Communication-intensive Course	Y		
Course Type	Lecture-based course		

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		12
Tutorials	Small group tutorials	12
Group work	Workshops	24
Discussion		24
Reading / Self study	Reading/self study (20 hours) and preparation (12 hours)	32
Assessment		16

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Assignments	coursework	50	
Examination		50	

Required/recommended reading and online materials

汪麗炎，1998年。《漢語修辭》。上海：上海大學出版社。 李家樹、謝耀基，1994年。《漢語的特性和運用》。香港：香港大學出版社。 香港城市大學語文學部，2001年。《中文傳意：基礎篇》。香港：香港城市大學出版社。 周錫韋复，1996年。《中文應用寫作教程》。香港：三聯書店。 李錦昌，2000年。《現代商業傳意大全》。香港：商務印書館。 汪麗炎，1998年。《漢語寫作》。上海：上海大學出版社。 香港城市大學語文學部，2001年。《中文傳意：寫作篇》。香港：香港城市大學出版社。 經文略、蘭德主編，2001年。《企業文案撰寫模式大全》。廣州：廣東經濟出版社。 劉美森，2001年。《新編公文寫作學》。成都：四川人民出版社。 黎運漢、李軍，2001年。《商業語言》。台北：台灣商務印書館。

MATH1821	**Mathematical methods for actuarial science I (6 credits)**	**Academic Year**	2025
Offering Department	Mathematics	**Quota**	---
Course Co-ordinator	Dr K H Law, Mathematics *(lawkaho@connect.hku.hk)*		
Teachers Involved	(Dr K H Law,Mathematics)		
Course Objectives	This course is the first of the two mathematics courses designed to provide actuarial science students with a solid background of calculus of one and several variables and an introduction to linear algebra. The course focuses on single variable calculus and elementary matrix theory. It aims at students with Core Mathematics plus Module 1 or Core Mathematics plus Module 2 background.		
Course Contents & Topics	- Functions; graphs; inverse functions. - Limits, continuity and differentiability. - Mean value theorem; implicit differentiation; L'Hopital's rule. - Bisection method and Newton's method. - Higher order derivatives, maxima and minima, graph sketching. - Taylor approximation and error estimation. - Improper integrals, partial fractions, integration by parts. - Numerical integration, Trapezoidal rule and Simpson's rule. - Basic matrix and vector (of orders 2 and 3) operations, determinants. - Simple differential equations.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 describe properties of a function and an inverse function CLO 2 evaluate various kinds of limits, and determine continuity and differentiability of functions CLO 3 apply advanced rules/techniques of differentiation and integration to compute derivatives and integrals; sketch graphs of functions CLO 4 approximate integrals by numerical methods CLO 5 perform matrix and vector operations, compute determinants CLO 6 solve simple first and second order ordinary differential equations		
Pre-requisites (and Co-requisites and Impermissible combinations)	Level 4 or above in HKDSE Mathematics plus Module 1, or Level 4 or above in HKDSE Mathematics plus Module 2, or equivalent; and Not for students who have passed MATH1013 or (MATH1851 and MATH1853), or have already enrolled in these courses. For BSc(ActuarSc) students only.		
Offer in 2025 - 2026	Y 1st sem Offer in 2026 - 2027 : Y	**Examination**	Dec
Grade Descriptors (A+ to F)	**A** Demonstrate an excellent understanding of key concepts and ideas by being able to identify the appropriate theorems and their applications through correctly analysing problems, clearly and elegantly presenting correct logical reasoning and argumentation and being able to carry out computations carefully and correctly, and with some innovative approaches to solving problems. **B** Demonstrate a good understanding of key concepts and ideas by being able to identify the appropriate theorems and their applications through correctly analysing problems, but with some minor inadequacies in arguments, identifying the appropriate theorems or their applications and presentation or with some minor computational errors. **C** Demonstrate an acceptable understanding of key concepts and ideas by being able to correctly identify appropriate theorems, but with some inadequacies in applying the theorems through incorrectly analysing problems with poor argument and presentation or a number of minor computational errors. **D** Demonstrate some understanding of key concepts and ideas by being able to correctly identify appropriate theorems, but with substantial inadequacies in applying the theorems through incorrectly analysing problems with poor argument or presentation or with substantial computational errors. **Fail** Demonstrate poor and inadequate understanding by not being able to identify appropriate theorems or their applications, or not being able to complete the solution.		
Communication-intensive Course	N		
Course Type	Lecture-based course		

Course Teaching & Learning Activities

Activities	**Details**	**No. of Hours**
Lectures		36
Tutorials		12
Reading / Self study	Students are expected to watch videos online before classes.	100

Assessment Methods and Weighting

Methods	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
Examination		50	CLO 1, 2, 3, 4, 5, 6
Test		40	CLO 1, 2, 3, 4, 5, 6
Assignments	Tutorials, assignments, participation, etc.	10	CLO 1, 2, 3, 4, 5, 6

Required/recommended reading and online materials	George B. Thomas; as revised by Maurice D. Weir and Joel Hass: Thomas' Calculus (Addison Wesley, 12th edition) Spence, Insel & Friedberg: Elementary Linear Algebra -- A Matrix Approach (Pearson, 2014)
Course Website	http://moodle.hku.hk/

MATH2822	Mathematical methods for actuarial science II (6 credits)	Academic Year	2025
Offering Department	Mathematics	Quota	---
Course Co-ordinator	Dr K H Law, Mathematics *(lawkaho@connect.hku.hk)*		
Teachers Involved	(Dr K H Law,Mathematics)		
Course Objectives	This course is the second of the two mathematics courses designed to provide actuarial science students with a solid background of calculus of one and several variables and an introduction to linear algebra. The course focuses on multivariable calculus and linear algebra. It aims at students with MATH1821. It can be followed by other 2000 or 3000 level mathematics courses.		
Course Contents & Topics	- Functions of several variables; partial differentiation. - Gradients and directional derivatives. - Taylor approximation. - Maxima and minima; Lagrange multipliers. - Double and triple integrals, areas and volumes. - Matrices, systems of linear equations, determinants. - Vector spaces and subspaces. - Eigenvalues and eigenvectors, diagonalization of matrices.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1: understand and recognize various topics in linear algebra such as the basic arithmetic of matrices, determinants, systems of linear equations, eigenvalues and eigenvectors, diagonalizable matrices, basis and dimension, and the rank-nullity theorem CLO 2: understand and recognize various topics in functions of several variables including partial differentiation, the Hessian test for local extrema, vector-valued functions, Jacobians, the method of Lagrange multipliers, double/triple integrals and the change of variable formula		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in MATH1821. For BSc(ActuarSc) students only.		
Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y	Examination	May
Grade Descriptors (A+ to F)	**A**: Demonstrate an excellent understanding of key concepts and ideas by being able to identify the appropriate theorems and their applications through correctly analysing problems, clearly and elegantly presenting correct logical reasoning and argumentation and being able to carry out computations carefully and correctly, and with some innovative approaches to solving problems. **B**: Demonstrate a good understanding of key concepts and ideas by being able to identify the appropriate theorems and their applications through correctly analysing problems, but with some minor inadequacies in arguments, identifying the appropriate theorems or their applications and presentation or with some minor computational errors. **C**: Demonstrate an acceptable understanding of key concepts and ideas by being able to correctly identify appropriate theorems, but with some inadequacies in applying the theorems through incorrectly analysing problems with poor argument and presentation or a number of minor computational errors. **D**: Demonstrate some understanding of key concepts and ideas by being able to correctly identify appropriate theorems, but with substantial inadequacies in applying the theorems through incorrectly analysing problems with poor argument or presentation or with substantial computational errors. **Fail**: Demonstrate poor and inadequate understanding by not being able to identify appropriate theorems or their applications, or not being able to complete the solution.		
Communication-intensive Course	N		
Course Type	Lecture-based course		
Course Teaching & Learning Activities	see below		
Assessment Methods and Weighting	see below		
Required/recommended reading and online materials	George B. Thomas; as revised by Maurice D. Weir and Joel Hass: Thomas' Calculus (Addison Wesley, 12th edition) Spence, Insel & Friedberg: Elementary Linear Algebra -- A Matrix Approach (Pearson, 2014)		
Course Website	http://moodle.hku.hk/		

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study	Students are expected to watch videos online before classes.	100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination		50	CLO 1, 2
Test		40	CLO 1, 2
Assignments		10	CLO 1, 2

STAT2901	**Probability and statistics: foundations of actuarial science (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof S M S Lee, SCDS (Department of Statistics and Actuarial Science) *(smslee@hku.hk)*		
Teachers Involved	(Prof S M S Lee,Statistics & Actuarial Science)		
Course Objectives	The purpose of this course is to develop knowledge of the fundamental tools in probability and statistics for quantitatively assessing risk. Applications of these tools to actuarial science problems will be emphasized. Students will have a thorough command of probability topics and the supporting calculations.		
Course Contents & Topics	1. General probability - Basic elements of probability in set notation - Mutually exclusive events - Addition and multiplication rules - Independence of events - Combinatorial probability - Conditional probability and expectations - Bayes theorem / Law of total probability - Random variables 2. Univariate probability distributions (including binomial, negative binomial, geometric, hypergeometric, Poisson, uniform, exponential, chi-square, beta, Pareto, lognormal, gamma, Weibull and normal) and bivariate normal distribution - Probability functions and probability density functions - Cumulative distribution functions - Mode, median, percentiles and moments - Variance and measures of dispersion - Central limit theorem 3. Sampling distributions and introduction of estimation		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 understand the mathematical theory underlying the modern practice of statistics CLO 2 develop skills in probabilistic analysis for problems involving randomness CLO 3 apply techniques in probability and statistics to solve actuarial science problems		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in MATH1821 [for BSc(ActuarSc) students] or already enrolled in this course, or Pass in MATH1013 or already enrolled in this course [for students outside the BSc(ActuarSc) programme]; and Not for students who have passed or enrolled in any of these courses: STAT1601, STAT1602, STAT1603, STAT2601 Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y	**Examination**	May
Grade Descriptors (A+ to F)	**A** Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills. **B** Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills. **C** Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills. **D** Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills. **Fail** Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.		
Communication-intensive Course	N		
Course Type	Lecture-based course		

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials	tutorials/example classes	12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination	One 3-hour written examination	75	CLO 1, 2, 3
Assignments	Coursework (assignments, tutorials, and a class test)	25	CLO 1, 2, 3

Required/recommended reading and online materials	Feller, W. (1968). An Introduction to Probability Theory and Its Applications. Wiley, New York. Hassett, M. and Stewart, D. (2006). Probability for Risk Management (2nd Edition). ACTEX Publication: Winsted. Hogg, R.V. and Tanis, E.A. (2009). Probability and Statistical Inference (8th Edition). Prentice Hall: Upper Saddle River. Ross, S.M. (2005). A First Course in Probability (7th Edition). Prentice Hall: Upper Saddle River. Wackerly, D., Mendenhall, R. and Scheaffer, R. (2008). Mathematical Statistics with Applications. (7th Edition). Thomson Brooks/Cole: California.
Course Website	http://moodle.hku.hk

STAT2902	**Financial mathematics (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof K C Cheung, SCDS (Department of Statistics and Actuarial Science) *(kccg@hku.hk)*		
Teachers Involved	(Prof K C Cheung,Statistics & Actuarial Science)		
Course Objectives	This course introduces the fundamental concepts of financial mathematics which plays an important role in the development of basic actuarial techniques. Practical applications of these concepts are also covered.		

Course Contents & Topics	Key topics include: measurement of interest, annuities certain; discounted cash flow analysis; yield rates; amortization schedules; bonds and related securities; practical applications such as real estate mortgage and short sales; and key terms of financial analysis such as yield curves, spot rates, forward rates, duration, convexity, and immunization.
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 understand basic concepts of financial mathematics CLO 2 calculate present value, current value, and accumulated value for sequences of non-contingent payments CLO 3 understand key concepts concerning loans and perform related calculations CLO 4 understand key concepts concerning bonds and perform related calculations CLO 5 understand term structure of interest rates and cash flow matching and immunization, to perform related calculations
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT2901, or already enrolled in this course; and Not for students who have passed in STAT3615, or already enrolled in this course. Only for students admitted in 2024-25 or before.
Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y **Examination** May
Grade Descriptors (A+ to F)	**A** Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills. **B** Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills. **C** Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills. **D** Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills. **Fail** Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	N
Course Type	Lecture-based course

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials	tutorials/example classes	12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination	One 3-hour written examination	60	CLO 1, 2, 3, 4, 5
Assignments	Coursework (assignments, tutorials, class test(s) and participation)	40	CLO 1, 2, 3, 4, 5

Required/recommended reading and online materials	Kellison, S. G.: The Theory of Interest (Irwin: Illinois, 2008, 3rd edition) Broverman, S.A., Mathematics of Investment and Credit (Eighth Edition), 2024, ACTEX Publications.
Course Website	http://moodle.hku.hk

STAT3901	**Life contingencies I (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Dr K P Wat, SCDS (Department of Statistics and Actuarial Science) *(watkp@hku.hk)*		
Teachers Involved	(Dr K P Wat,Statistics & Actuarial Science)		
Course Objectives	The major objectives of this course are to integrate life contingencies into a full probabilistic framework. The time-until-death random variable is the basic building block by which models for life insurances, designed to reduce the financial impact of the random event of untimely death, are developed. This course introduces the concepts of life contingencies and the basic mathematical skills for modelling life insurance products.		
Course Contents & Topics	Key topics include: survival distributions; life table functions; select and ultimate tables; life insurance models; life annuity models; loss-at-issue random variable; benefit premiums.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 calculate the expected values, variances, probabilities, and percentiles for survival-time random variables CLO 2 define the continuous survival-time random variable that arises from the discrete survival-time random variable using some assumptions for fractional ages CLO 3 define present-value-of-benefit random variables defined on survival-time random variables CLO 4 define and calculate the expected values, variances and probabilities for present-value-of-benefit random variables, present-value-of-loss-at-issue random variables, and present-value-of-loss random variables CLO 5 calculate benefit premiums for life insurances and annuities		
Pre-requisites (and Co-requisites and Impermissible combinations)	(Pass in STAT2602 and STAT3615) or (Pass in STAT2902 and (Pass in STAT3902 or already enrolled in this course)) or (Pass in STAT2602 and STAT2902) Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 1st sem Offer in 2026 - 2027 : Y	**Examination**	Dec
Grade Descriptors (A+ to F)	**A** Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills. **B** Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills. **C** Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most		

		familiar situations. Apply moderately effective organizational and presentational skills.
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	N	
Course Type	Lecture-based course	

Course Teaching & Learning Activities	**Activities**	**Details**	**No. of Hours**
	Lectures		36
	Tutorials		12
	Reading / Self study		100

Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Examination	One 3-hour written examination	60	CLO 1, 2, 3, 4, 5
	Assignments	Coursework (assignments, tutorials, class test(s) and participation)	40	CLO 1, 2, 3, 4, 5

Required/recommended reading and online materials	Bowers, N. L., Gerber, H. U., Hickman, J. C., Jones, D. A., and Nesbitt, C. J. (1997). Actuarial Mathematics (2nd Edition). The Society of Actuaries. Dickson, D. C. M., Hardy, M. R., and Waters, H. R. (2020). Actuarial Mathematics for Life Contingent Risks (3rd Edition). Cambridge University Press.
Course Website	http://moodle.hku.hk

STAT3902	**Mathematical statistics (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof M Hofert, SCDS (Department of Statistics and Actuarial Science) *(mhofert@hku.hk)*		
Teachers Involved	(Prof M Hofert,Statistics & Actuarial Science)		
Course Objectives	This course provides a rigorous introduction to fundamental concepts in probability and mathematical statistics, including stochastic modelling, independence and dependence, summary statistics, conditional expectation and distributions, asymptotic theory, point and interval estimation and hypothesis testing. It is an approved Validation by Educational Experience (VEE) course by the Society of Actuaries (SOA).		
Course Contents & Topics	Probability spaces, random variables and random vectors, univariate and multivariate distribution functions, empirical distribution functions, quantile functions, independence and dependence, covariance, correlation, multivariate notions, conditional expectation and distributions, modes of convergence, continuous mapping theorem and Slutsky's theorem, strong law of large numbers, central limit theorem, estimation concepts, constructing uniformly minimum variance unbiased estimators, exact and asymptotic confidence intervals, nonparametric bootstrap, method of moments estimator, maximum likelihood estimator and asymptotic properties, hypothesis testing concepts, size and power, p-values, (uniformly) most powerful tests, likelihood ratio test.		

Course Learning Outcomes	On successful completion of this course, students should be able to:
CLO 1	understand the fundamentals of probability in the univariate and multivariate case
CLO 2	understand the fundamentals of probabilistic modelling
CLO 3	learn about concepts in mathematical statistics
CLO 4	understand the concepts of point estimation, interval estimation and hypothesis testing

Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT2901; and Not for students who have passed in STAT2602, or already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 1st sem Offer in 2026 - 2027 : Y	**Examination**	Dec

Grade Descriptors (A+ to F)		
	A	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	N	
Course Type	Lecture-based course	

Course Teaching & Learning Activities	**Activities**	**Details**	**No. of Hours**
	Lectures		36
	Tutorials		12
	Reading / Self study		100

Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Examination	One 2-hour written examination	60	CLO 1, 2, 3, 4
	Assignments	Coursework (assignments, tutorials, and a class test)	40	CLO 1, 2, 3, 4

Required/recommended reading and online materials	Casella G., Berger R. L.: Statistical Inference, 2nd edition, Duxbury, 2001.
Course Website	http://moodle.hku.hk

STAT3903	**Stochastic models (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof K Zhu, SCDS (Department of Statistics and Actuarial Science) *(mazhuke@hku.hk)*		
Teachers Involved	(Prof K Zhu,Statistics & Actuarial Science)		
Course Objectives	This is an introductory course in stochastic processes. It will cover the basic concepts of the theory of stochastic processes and explore different types of stochastic processes including Markov chains, Poisson processes and Brownian motions.		
Course Contents & Topics	Introduction to probability theory, conditional probability and expectation, Markov chains, random walk models, classification of states in a Markov chain, calculation of limiting probabilities and mean time spent in transient states, Poisson process, distribution of inter-arrival time and waiting time, conditional distribution of the arrival time, Brownian Motion, hitting time and maximum variable, geometric Brownian motion, the Black-Scholes option pricing formula, Gaussian bridge, and stationary processes. Birth-and-death process, branching process and renewal process may also be covered (if time permits).		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 apply the conditioning method to calculate the mean and probability CLO 2 understand the essentials of Markov chains, the Poisson process, and Brownian motion CLO 3 understand how stochastic models can be applied to the study of real-life phenomena		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT2901; and Not for students who have passed in MATH3603, or have already enrolled in this course; and Not for students who have passed in STAT3603, or have already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y	**Examination**	May
Grade Descriptors (A+ to F)	**A** Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills. **B** Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills. **C** Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills. **D** Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills. **Fail** Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.		
Communication-intensive Course	N		
Course Type	Lecture-based course		

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination	One 3-hour written examination	75	CLO 1, 2, 3
Assignments	Coursework (assignments, tutorials, and a class test)	25	CLO 1, 2, 3

Required/recommended reading and online materials	S. M. Ross: Introduction to Probability Models (9th edition)
Course Website	http://moodle.hku.hk

STAT3904	**Corporate finance for actuarial science (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Dr D Lee, SCDS (Department of Statistics and Actuarial Science) *(leedav@hku.hk)*		
Teachers Involved	(Dr D Lee,Statistics & Actuarial Science)		
Course Objectives	This course is designed for actuarial science students to receive finance component of VEE Accounting and Finance from the Society of Actuaries. The objective of this course is to introduce students to the fundamental principles of corporate finance. The course will provide students with a systematic framework within which to evaluate investment and financing decisions for corporations.		
Course Contents & Topics	The first part of the course will give an introduction to corporate finance and provide an overview of some topics covered in STAT2902 and STAT3615. These include financial markets and companies, time value of money, and measures and performance assessment of financial performance. The main part of the course will focus on some important topics of corporate finance including: portfolio theory, utility theory, Markowitz mean-variance analysis, capital asset pricing model, weighted average cost of capital, market efficiency and behavioural finance, capital structure and dividend policy, financial leverage and firm value.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 describe the tasks of a financial manager and the financial decisions made by a corporation CLO 2 recall the use of present and future values in calculating the value of bonds and stocks CLO 3 assess financial performance using various investment criteria and techniques of project analysis		

	CLO 4	analyze the mean-variance portfolio theory, capital asset pricing model and arbitrage pricing theory
	CLO 5	identify the factors to be considered by a company when deciding on its capital structure and dividend policy, and also the impact of financial leverage and long/short term financing policies on capital structure
	CLO 6	describe the various forms of market efficiency, and explain investor behaviour using behavioural finance theories
	CLO 7	explain the core features of the utility theory
Pre-requisites (and Co-requisites and Impermissible combinations)		[(Pass in ACCT1101 and STAT2902) or (Pass in STAT3615)]; and Not for students who have passed in FINA1310, or have already enrolled in this course. Only for students admitted in 2024-25 or before.
Offer in 2025 - 2026		Y 1st sem Offer in 2026 - 2027 : Y **Examination** Dec

Grade Descriptors (A+ to F)		
	A	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

Communication-intensive Course	N
Course Type	Lecture-based course

Course Teaching & Learning Activities	**Activities**	**Details**	**No. of Hours**
	Lectures		36
	Tutorials		12
	Reading / Self study		100

Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Examination	One 3-hour written examination	75	CLO 1, 2, 3, 4, 5, 6, 7
	Assignments	Coursework (assignments, tutorials, and a class test)	25	CLO 1, 2, 3, 4, 5, 6, 7

Required/recommended reading and online materials	Brealey, R.A., Myers, S.C., Allen, F.: Principles of Corporate Finance (McGraw-Hill, 2020, 13th edition) Berk, J., DeMarzo, P.: Corporate Finance (Pearson, 2020, 5th edition)
Course Website	http://moodle.hku.hk

STAT3905	**Introduction to financial derivatives (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof T Boonen, SCDS (Department of Statistics and Actuarial Science) *(tjboonen@hku.hk)*		
Teachers Involved	(Prof T Boonen,Statistics & Actuarial Science)		
Course Objectives	Nowadays all risk managers must be well versed in the use and valuation of derivatives. The two basic types of derivatives are forwards (having a linear payoff) and options (having a non-linear payoff). All other derivatives can be decomposed to these underlying payoffs or alternatively they are variations on these basic ideas. This course aims at demonstrating the practical use of financial derivatives in risk management. Emphases are on pricing and hedging strategies, and the no-arbitrage principle.		
Course Contents & Topics	Derivatives; short-selling; call options; put options; equity-linked CD; trading strategies; hedging; forwards and futures; commodity swaps; interest rate swaps; put-call parity; binomial model; Black-Scholes option pricing model.		

Course Learning Outcomes	On successful completion of this course, students should be able to:	
	CLO 1	define and recognize the definitions of terms commonly used in derivatives markets
	CLO 2	evaluate the payoff, profit, and properties of basic derivative contracts, including forwards, futures, options
	CLO 3	explain how derivative securities can be used as tools to manage financial risk
	CLO 4	calculate option price using binomial model and Black-Scholes option pricing model

Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT2902; and Not for students who have passed or already enrolled in any of the following courses: FINA2322, MATH3906, STAT3618; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.
Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y **Examination** May

Grade Descriptors (A+ to F)		
	A	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

Communication-intensive Course	N
Course Type	Lecture-based course

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination	One 2-hour written examination	75	CLO 1, 2, 3, 4
Assignments	Coursework (assignments, tutorials, and a class test)	25	CLO 1, 2, 3, 4

Required/recommended reading and online materials	McDonald, R. L. (2013). Derivatives Markets (3rd Edition). Pearson. Hull, J. C. (2018). Options, Futures, and Other Derivatives (10th Edition). Pearson. Hull, J. C. (2018). Risk Management and Financial Institutions (5th Edition). Wiley.
Course Website	http://moodle.hku.hk

STAT3906	**Risk theory I (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof K C Cheung, SCDS (Department of Statistics and Actuarial Science) *(kccg@hku.hk)*		
Teachers Involved	(Prof K C Cheung,Statistics & Actuarial Science)		
Course Objectives	Risk theory is one of the main topics in actuarial science. Risk theory is the applications of statistical models and stochastic processes to insurance problems such as the premium calculation.		
Course Contents & Topics	Severity models; frequency models; collective risk models; coverage modifications; risk measures.		

Course Learning Outcomes

On successful completion of this course, students should be able to:

CLO 1	understand the individual risk model and the collective risk model, evaluate the distribution and expectation of the total claim amounts
CLO 2	estimate the premium of a policyholder and the total claim amounts using the information of the claim amounts made in previous years
CLO 3	calculate some commonly used risk measures and explain their use and limitation

Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3903, or already enrolled in this course; or Pass in MATH3603 or STAT3603 Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 1st sem Offer in 2026 - 2027 : Y	**Examination**	Dec

Grade Descriptors (A+ to F)

A	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

Communication-intensive Course	N
Course Type	Lecture-based course

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination	One 3-hour written examination	75	CLO 1, 2, 3
Assignments	Coursework (assignments, tutorials, and a class test)	25	CLO 1, 2, 3

Required/recommended reading and online materials	Klugman S. A., Panjer H. H., & Willmot G. E.: Loss Models: From Data to Decisions (John Wiley & Sons, Inc., 2019, 5th edition)
Course Website	http://moodle.hku.hk

STAT3907	**Linear models and forecasting (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Mr H Y Y Cheung, SCDS (Department of Statistics and Actuarial Science) *(hcheung4@hku.hk)*		
Teachers Involved	(Mr H Y Y Cheung,Statistics & Actuarial Science)		
Course Objectives	This course deals with applied statistical methods of linear models and investigates various forecasting procedures through using linear models and time series analysis.		
Course Contents & Topics	Regression and multiple linear regression; predicting; generalized linear models; time series models including autoregressive, moving average, autoregressive-moving average and integrated models; forecasting.		

Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 fit a simple or multiple linear regression model to real data CLO 2 do ANOVA analysis CLO 3 identify and fit a suitable AR, MA or ARMA model to real data CLO 4 perform residual analysis CLO 5 do forecasting with these fitted models CLO 6 fit generalized linear model to real data
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT2602 or STAT3902, or already enrolled in this course; and Not for students who have passed in STAT3600, or have already enrolled in this course; and Not for students who have passed in STAT4601, or have already enrolled in this course; and Not for students who have passed in ECON2280, or have already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.
Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y **Examination** May
Grade Descriptors (A+ to F)	**A** Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills. **B** Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills. **C** Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills. **D** Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills. **Fail** Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	N
Course Type	Lecture-based course

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination	One 3-hour written examination	75	CLO 1, 2, 3, 4, 5, 6
Assignments	Coursework (assignments, tutorials, a computer-based assessment and a class test)	25	CLO 1, 2, 3, 4, 5, 6

Required/recommended reading and online materials	R. S. Pindyck & D. L. Rubinfeld: Econometric Models and Economic Forecasts (McGraw-Hill, 1998, 4th edition) Abraham & J. Ledolter: Statistical Methods for Forecasting (John Wiley & Sons, 2005, 2nd edition) G. E. P. Box, G. M. Jenkins & G. Reinsel: Time Series Analysis: Forecasting and Control (Prentice Hall, 1994, 3rd edition) G James, D Witten, T Hastie and R Tibshirani (2021) An Introduction to Statistical Learning with Applications in R, second edition, Springer.
Course Website	http://moodle.hku.hk

STAT3908	**Credibility theory and loss modelling (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof M Hofert, SCDS (Department of Statistics and Actuarial Science) *(mhofert@hku.hk)*		
Teachers Involved	(Prof M Hofert,Statistics & Actuarial Science)		
Course Objectives	Credibility theory concerns the construction of statistical estimators in order to obtain more reliable ones, for example for premium calculations. Different approaches to credibility theory are introduced (limited fluctuation, Bayesian, greatest accuracy). Loss modelling is at the core of actuarial science and parametric and nonparametric methods for point and interval estimation, as well as model assessment and selection are covered.		
Course Contents & Topics	Limited fluctuation approach (full credibility, partial credibility); Bayesian methodology and credibility (conditioning, Bayesian modelling, pure and Bayesian premium); greatest accuracy credibility (Buhlmann model, Buhlmann--Straub model); mathematical statistics (point estimation, interval estimation); parametric estimation (method of moment, quantile matching, maximum likelihood); nonparametric estimation (empirical distribution, survival and hazard rate function, kernel density); modified data (grouped, truncated, censored); model assessment and selection.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 understand limited fluctuation credibility (full and partial credibility) and greatest accuracy credibility (Buhlmann and Buhlmann-Straub) CLO 2 learn about Bayesian methodology CLO 3 understand main concepts of mathematical statistics CLO 4 learn about parametric and nonparametric estimation CLO 5 understand data modifications (grouping, truncation, censoring) CLO 6 learn about model assessment and selection		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT2602 or STAT3902 or STAT3906 Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y	**Examination**	May

Grade Descriptors (A+ to F)	**A**	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	N	
Course Type	Lecture-based course	

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination	One 2-hour written examination	60	CLO 1, 2, 3, 4, 5, 6
Assignments	Coursework (assignments, tutorials, and a class test)	40	CLO 1, 2, 3, 4, 5, 6

Required/recommended reading and online materials	Klugman S. A., Panjer H. H., & Willmot G. E.: Loss Models: From Data to Decisions (John Wiley & Sons, 2019, 5th edition).
Course Website	http://moodle.hku.hk

STAT3909	**Life contingencies II (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Dr D Lee, SCDS (Department of Statistics and Actuarial Science) *(leedav@hku.hk)*		
Teachers Involved	(Dr D Lee,Statistics & Actuarial Science)		
Course Objectives	This course aims at introducing further topics in life insurance. Emphasis will be placed on applications of more advanced theories of life contingencies.		
Course Contents & Topics	This course is a continuation of the materials covered in STAT3901. We shall discuss the following topics: expenses and asset shares; Thiele's differential equation and policy values at fractional years; multiple state models and their applications in multiple decrement and multiple life theories; profit testing.		

Course Learning Outcomes

On successful completion of this course, students should be able to:

CLO 1	incorporate expenses in gross premium and calculate policy values based on the gross premium for life insurances and annuities
CLO 2	apply the recursion formula and Thiele's differential equation in calculating policy values
CLO 3	calculate probabilities and actuarial present values under the multiple state model framework
CLO 4	analyze multiple decrement models and calculate the life insurances and annuities in models with multiple decrements
CLO 5	analyze multiple life models and calculate the life insurances and annuities in models with multiple lives
CLO 6	explain the concept of profit testing and perform relevant calculations

Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3901, or already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y	**Examination**	May

Grade Descriptors (A+ to F)	**A**	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organizational and presentational skills are minimally effective or ineffective.
Communication-intensive Course	N	
Course Type	Lecture-based course	

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping

	Examination	One 3-hour written examination	75	CLO 1, 2, 3, 4, 5, 6
	Assignments	Coursework (assignments, tutorials, a computer-based assessment and a class test)	25	CLO 1, 2, 3, 4, 5, 6
Required/recommended reading and online materials	Bowers. N.L., Gerber, H.U., Hickman, J.C., Jones, D.A., and Nesbitt, C.J.: Actuarial Mathematics (Society of Actuaries, 1997, 2nd edition) Dickson, D.C.M., Hardy, M.R., and Waters, H.R.: Actuarial Mathematics for Life Contingent Risks (Cambridge University Press, 2020, 3rd edition)			
Course Website	http://moodle.hku.hk			

STAT3910	**Financial economics I (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Dr A Lo, SCDS (Department of Statistics and Actuarial Science) *(amb10@hku.hk)*		
Teachers Involved	(Dr A Lo,Statistics & Actuarial Science)		
Course Objectives	This course is on option pricing and hedging. The course will concentrate on the theory and idea of derivatives pricing and risk management.		
Course Contents & Topics	Option market; European and American options; conditional expectation and discrete-time martingale, discrete-time option pricing theory; true probabilities vs. risk-neutral probabilities; estimating volatility; the Black-Scholes formula; implied volatility; option Greeks; market-making and hedging; exotic options. For the purposes of Institute and Faculty of Actuaries (IFoA) exemptions by accreditation, your score will be based on the Final Exam (70%) and a computer-based assignment (30%).		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 understand the Black-Scholes formula, including the assumptions, the Greek letters, option elasticity, and implied volatility CLO 2 understand the hedging strategies and portfolio, market-maker risk, self-financing portfolio CLO 3 understand the market-maker's profit CLO 4 understand exotic options, including Asian options, barrier options, compound options, gap options, and exchange options CLO 5 understand discrete-time martingales and option pricing theory		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT2602 or STAT3902; and Not for students who have passed in FINA2322, or have already enrolled in this course; and Not for students who have passed in MATH3906, or have already enrolled in this course. Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 1st sem Offer in 2026 - 2027 : Y	**Examination**	Dec

Grade Descriptors (A+ to F)		
	A	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	N	
Course Type	Lecture-based course	

Course Teaching & Learning Activities	**Activities**	**Details**	**No. of Hours**
	Lectures		36
	Tutorials		12
	Reading / Self study		100

Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Examination	One 3-hour written examination	75	CLO 1, 2, 3, 4, 5
	Assignments	Coursework (assignments, tutorials, a computer-based assessment and a class test)	25	CLO 1, 2, 3, 4, 5
Required/recommended reading and online materials	1. Derivatives Markets, Chapters 12-14, 2nd edition or later edition, by Robert L. McDonald. 2. Options, Futures and Other Derivatives, 4th or later edition, by J. Hull.			
Course Website	http://moodle.hku.hk			

STAT3911	**Financial economics II (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof W Li, SCDS (Department of Statistics and Actuarial Science) *(wylsaas@hku.hk)*		
Teachers Involved	(Prof W Li,Statistics & Actuarial Science)		
Course Objectives	Stochastic calculus has become an essential tool in economics, insurance, finance, and econometrics nowadays. It serves as the foundation for pricing financial derivatives, including options and futures. In this course, students shall study basic stochastic calculus theory and its applications in financial economics. They will be skillful in using Ito calculus and know its applications in asset pricing and interest rate models. In addition, students will work in groups		

	to prepare and present hot financial topics. They will practice their presentation skills in public speaking and report writing.
Course Contents & Topics	Brownian motion; introduction to stochastic calculus; arithmetic and geometric Brownian motion; Ito formula; Sharpe ratio and risk premium; Black-Scholes equation; risk-neutral stock-price process and option pricing; option's elasticity and volatility; Vasicek, Cox-Ingersoll-Ross, and Black-Derman-Toy models; delta-hedging for bonds and the Sharpe-ratio equality constraint; Black's model; options on zero-coupon bonds; interest-rate caps and caplets.
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 understanding measure theory based probability theory CLO 2 understanding conditional probability and martingales CLO 3 understand Brownian motion and Ito calculus CLO 4 understanding Black-Scholes option pricing theory CLO 5 understanding interest rate models, such as Vasicek and Cox-Ingersoll-Ross models CLO 6 be logical to deliver his/her own analysis through a written report CLO 7 be confident to express his/her own analytic and strategic ideas through a slide presentation
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in MATH3603 or STAT3603 or STAT3903 or STAT3910; and Not for students who have passed in MATH3906, or have already enrolled in this course. Only for students admitted in 2024-25 or before.
Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y — **Examination** May
Grade Descriptors (A+ to F)	**A** Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills. **B** Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills. **C** Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills. **D** Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills. **Fail** Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	Y
Course Type	Lecture-based course

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination	One 3-hour written examination	40	CLO 1, 2, 3, 4, 5
Assignments	Coursework (assignments, tutorials, and a class test)	20	CLO 1, 2, 3, 4, 5
Project reports	A group-written report (a series of scientific writing workshops will be provided)	20	CLO 6
Presentation	A group slide presentation (a series of presentation workshops will be provided)	20	CLO 7

Required/recommended reading and online materials	Robert L. McDonald: Derivatives Markets (2nd edition), Chapters 20, 21 and 24. John Hull: Options, Futures and Other Derivatives (2008, 7th edition) Alison Etheridge: A Course in Financial Calculus (2002) Steven Shreve: Stochastic Calculus for Finance II Continuous-Time Models (2008)
Course Website	http://moodle.hku.hk

STAT3951	**Topics on advanced actuarial modelling (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Dr D Lee, SCDS (Department of Statistics and Actuarial Science) *(leedav@hku.hk)*		
Teachers Involved	(Dr D Lee,Statistics & Actuarial Science)		
Course Objectives	This course covers more advanced actuarial models and techniques used in the field of life and non-life insurance.		
Course Contents & Topics	Topics include: estimation of transition intensities; graduation and related tests; unit-linked contracts; cost of guarantees and options; equity-linked life-contingent insurance products and their valuation; extreme value theory; copulas; simple ruin models for non-life insurance portfolios.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 estimate age-dependent transition intensities CLO 2 explain the concept of graduation and apply statistical tests for mortality table comparisons CLO 3 apply the Esscher transform on probability distributions and stochastic processes CLO 4 price various equity-linked insurance products using Esscher transforms and risk-neutral methods CLO 5 apply the extreme value theory on univariate data sets CLO 6 describe the properties of common copula models and apply such models to capture the dependence structures of different risks CLO 7 formulate simple ruin models and evaluate ruin probabilities as well as related quantities		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3906, or already enrolled in this course; and Pass in STAT3910, or already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.		

Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y			**Examination**	May
Grade Descriptors (A+ to F)	**A**	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.			
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.			
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.			
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.			
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.			
Communication-intensive Course	N				
Course Type	Lecture-based course				
Course Teaching & Learning Activities	**Activities**	**Details**		**No. of Hours**	
	Lectures			36	
	Tutorials			12	
	Reading / Self study			100	
Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**	
	Examination	One 3-hour written examination	75	CLO 1, 2, 3, 4, 5, 6	
	Assignments	Coursework (assignments, tutorials, and a class test)	25	CLO 1, 2, 3, 4, 5, 6	
Required/recommended reading and online materials	Subject CS2 Risk Modelling and Survival Analysis, Core Principles, Core Reading (Institute and Faculty of Actuaries, 2022) Denuit M., Dhaene J., Goovaerts M., Kaas R.: Actuarial Theory for Dependent Risks (Wiley, 2005) Coles S.: An Introduction to Statistical Modeling of Extreme Values (Springer, 2001)				
Course Website	http://moodle.hku.hk				

STAT3953	**Fundamentals of actuarial practice (6 credits)**		**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)		**Quota**	---
Course Co-ordinator	Dr K P Wat, SCDS (Department of Statistics and Actuarial Science) *(watkp@hku.hk)*			
Teachers Involved	(Dr K P Wat,Statistics & Actuarial Science)			
Course Objectives	This course teaches students about the business environment and exposes them to practical real-world situations using the actuarial control cycle as a framework.			
Course Contents & Topics	This course provides an overview on selected materials relating to the following topics: Role of the Professional Actuary, External Forces, Risk in Actuarial Problems, Design and Pricing of Actuarial Solutions. Emphasis will be placed on applications to various financial security programmes including individual life insurance, group insurance, social security plans, retirement plans, investment funds and property and casualty insurance.			
Course Learning Outcomes	On successful completion of this course, students should be able to:			
	CLO 1	provide introductory description of financial security systems, common actuarial techniques and practical experiences		
	CLO 2	describe actuarial practices, principles, approaches, methods, commonalities, problems and solutions		
	CLO 3	explain actuarial practices across the traditional areas of practice on behalf of financial security system providers or as a consultant to those providers		
	CLO 4	apply actuarial skills in nontraditional and emerging areas of practice		
	CLO 5	provide context for the specific mathematical and technical skills developed in the basic actuarial courses		
	CLO 6	communicate technical information and participate in peer review		
	CLO 7	manage uncertainty by responding to questions in ambiguous or open-ended situations with limited time to prepare or react		
	CLO 8	prepare for the professional role as an Associate of the Society of Actuaries		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3901. Only for students admitted in 2024-25 or before.			
Offer in 2025 - 2026	Y 1st sem Offer in 2026 - 2027 : Y		**Examination**	No Exam
Grade Descriptors (A+ to F)	**A**	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.		
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.		
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.		
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.		
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organizational and presentational skills are minimally effective or ineffective.		
Communication-intensive Course	N			
Course Type	Lecture-based course			

Course Teaching & Learning Activities	**Activities**	**Details**		**No. of Hours**
	Lectures			36
	Tutorials			12
	Reading / Self study			100
Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Test	In-class quizzes, discussions and participation	40	CLO 1, 2, 3, 4, 5, 6, 7, 8
	Project reports	Written report	30	CLO 4, 5, 6
	Presentation	Oral presentation, interim report and peer review	30	CLO 4, 5, 6, 7
Required/recommended reading and online materials	Klugman, S. A. (2012). Understanding Actuarial Practice. Society of Actuaries. Bellis, C., Lyon, R., Klugman, S., and Shepherd, J. (2010). Understanding Actuarial Management: The Actuarial Control Cycle (2nd Edition). Institute of Actuaries of Australia. Brown, R. L. and Lennox, W. S. (2015). Introduction to Ratemaking and Loss Reserving for Property and Casualty Insurance (4th Edition). ACTEX Publications, Inc. Segal, S. (2011). Corporate Value of Enterprise Risk Management: The Next Step in Business Management. Wiley.			
Course Website	http://moodle.hku.hk			

STAT3954	**Current topics in actuarial science (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	TBC, SCDS (Department of Statistics and Actuarial Science) *(ugenq@hku.hk)*		
Teachers Involved			
Course Objectives	This course aims at providing practical elements for actuarial students including daily life actuarial practice and the basic capability to understand, research in and handle the laws as and when situations would arise, which will benefit students in their coming future career.		
Course Contents & Topics	This course covers a full range of topics related to both areas including 1) Practical Actuarial Practice and 2) Actuaries' Legal Thinking. For Practical Actuarial Practice: It covers the major practical topics in both Life and Casualty areas. For Life Insurance, it covers the full picture of actuarial control cycle including Product Pricing, Valuation, Financial Reporting and Experience Analysis. For General Insurance, it covers the backbone areas including Product Pricing and Valuation. For Actuaries' Legal Thinking: This is the 7th year of the course and the full start of a new course structure echoing changes in the market for basic legal and general insurance skills for actuaries. Intellectually stimulating recent legal materials with heavy involvement of actuarial and other general insurance expertise would dominate the course, alongside with basic legal research skills and fundamental legal thinking. Sharing of experience from guests from the General Insurance Industry would also infiltrate the course.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 have a basic understanding regarding Actuarial Control Cycle from A to Z for Life Insurance and General Insurance CLO 2 possess some experience regarding fundamental actuarial practice through practical project CLO 3 possess basic understanding of the legal system in Hong Kong CLO 4 possess fundamental knowledge in certain core legal aspects such as the law of contract and the law of tort CLO 5 possess fundamental knowledge of the law of insurance CLO 6 conduct elementary legal researches when facing with legal problems CLO 7 understand the basic elements of a routine judgment, the matrix of the facts and the law involved		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3901, or already enrolled in this course; or Pass in STAT3909, or already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	N Offer in 2026 - 2027 : N	**Examination**	---
Grade Descriptors (A+ to F)	**A** Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills. **B** Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills. **C** Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills. **D** Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills. **Fail** Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.		
Communication-intensive Course	N		
Course Type	Lecture-based course		

Course Teaching & Learning Activities	**Activities**	**Details**		**No. of Hours**
	Lectures			36
	Tutorials			12
	Reading / Self study			100
Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**

	Assignments	Coursework (assignments, practical project & class test(s))	100	CLO 1, 2, 3, 4, 5, 6, 7
Course Website	http://moodle.hku.hk			

STAT3956	**Life contingencies III (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof T Boonen, SCDS (Department of Statistics and Actuarial Science) *(tjboonen@hku.hk)*		
Teachers Involved	(Prof T Boonen,Statistics & Actuarial Science)		
Course Objectives	This course covers concepts and methods in life contingencies that are used in the valuation and financing of long-term actuarial plans and products.		
Course Contents & Topics	The following topics will be covered: Fundamentals of pension plans; pricing valuation and funding of pension obligations; universal life insurance; options that are embedded in life insurance and annuity contracts.		
Course Learning Outcomes	On successful completion of this course, students should be able to:		
	CLO 1 calculate the pension benefits in accordance with the provisions of a pension plan		
	CLO 2 perform pension valuation and funding calculations		
	CLO 3 describe the key features of universal life insurance and perform profit tests		
	CLO 4 define and calculate payoffs under various options embedded in insurance and annuity contracts		
	CLO 5 value the guaranteed minimum death benefit and the guaranteed minimum accumulation/maturity benefit using the Black-Scholes model		
	CLO 6 comment on the risk management of various options embedded in insurance products		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3909; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 1st sem Offer in 2026 - 2027 : Y	**Examination**	Dec

Grade Descriptors (A+ to F)

Grade	Descriptor
A	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

Communication-intensive Course	N
Course Type	Lecture-based course

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination	One 3-hour written examination	75	CLO 1, 2, 3, 4, 5, 6
Assignments	Coursework (assignments, tutorials, and a class test)	25	CLO 1, 2, 3, 4, 5, 6

Required/recommended reading and online materials	Dickson, D.C.M., Hardy, M.R., and Waters, H.R.: Actuarial Mathematics for Life Contingent Risks (Cambridge University Press, 2020, 3rd edition) Anderson, A.W., Pension Mathematics for Actuaries (ACTEX Publications, 2006, 3rd edition)
Course Website	http://moodle.hku.hk

STAT3957	**Essential principles in actuarial modelling (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	40
Course Co-ordinator	Mr K K L Chan, SCDS (Department of Statistics and Actuarial Science) *(ugenq@hku.hk)*		
Teachers Involved	(Mr C H C Wong,Statistics & Actuarial Science) (Mr K K L Chan,Statistics & Actuarial Science)		
Course Objectives	This course focuses on how students apply actuarial knowledge to develop models within and across various real-life modelling tools. Applications of the knowledge to real-world business problems will be emphasized.		
Course Contents & Topics	Brief introduction of actuarial modelling on various areas including data, coding, quality assurance, control, reasonableness check and documentation. Methods to build, modify and use an actuarial model to project future cashflows with uncertain insurance and market risks. Key functionality and calculation on the application of probabilistic theories, life contingencies, discounting, reserving techniques in the development of actuarial models. Pros and cons of different types of actuarial models in terms of efficiency, sustainability, and degree of controls. Practical experience in preparing assumptions, projecting cashflows, valuating, and troubleshooting through in-class exercise and group project.		
Course Learning Outcomes	On successful completion of this course, students should be able to:		
	CLO 1 Describe the history and recent development of actuarial modelling software.		
	CLO 2 Utilize basic foundational operations of actuarial modelling software.		

	CLO 3	Demonstrate the ability to develop a model using life contingencies concepts on probabilities, expected values, select and ultimate tables, and decrements.
	CLO 4	Transform complex business problems from cashflow projection and reserving requirements to simplified components like decrement models, discounting, and actuarial present value computation.
	CLO 5	Illustrate effective teamwork and presentation skills.
	CLO 6	Apply the learned concepts on using actuarial software, model development life cycle and change management to in-class exercise and group project.

Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3901 or already enrolled in this course For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.
Offer in 2025 - 2026	Y 1st sem Offer in 2026 - 2027 : Y — **Examination** No Exam

Grade Descriptors (A+ to F)

A	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

Communication-intensive Course	N
Course Type	Lecture-based course

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		80
Assessment		12

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Assignments	Students are expected to attend and participate actively in lectures, this includes completing class exercises and selected assignments which will be collected by lecturer.	30	CLO 1, 2, 3, 4, 5, 6
Project reports	Students will present and lead a discussion of a self-developed actuarial model.	70	CLO 1, 2, 3, 4, 5, 6

Course Website	http://moodle.hku.hk

STAT4711	**Capstone experience for actuarial science undergraduates (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	50
Course Co-ordinator	Prof K C Cheung, SCDS (Department of Statistics and Actuarial Science) *(ugenq@hku.hk)*		
Teachers Involved	(Various teachers as the assessors of oral presentations and written reports,Statistics & Actuarial Science)		
Course Objectives	This project-based course aims to provide students with capstone experience to formulate and investigate practical problems in actuarial science by integrating and applying actuarial theories and techniques learnt in their university years. It aims to help the students to establish a good and solid foundation of self-learning skills, and to enable students to equip with hands-on experience in solving practical problems including definition of the problem, designing the solution, and presentation of the results.		
Course Contents & Topics	No formal teaching will be given for this course. Students are expected to devote 120-140 hours working on this project. Students will work in groups of three to five under the supervision of a teacher and/or an industry supervisor. Students are required to give a presentation on their work two to three weeks before the end of the semester, and submit their final report at the end of the semester. Topics acceptable for projects in this course can be related to any of the traditional actuarial areas of practice such as life insurance, pension, finance, investment, enterprise risk management and general insurance. Students are also encouraged to suggest topics in non-traditional actuarial areas provided they can find a suitable teacher and/or industry supervisor. All topics for this course will be subject to final approval by the Department to ensure relevance to actuarial science. Students will need to decide on the topic for a practical project, conduct market research regarding industry activities related to the topic, and make suggestion on a solution of the problem identified in their project.		

Course Learning Outcomes

On successful completion of this course, students should be able to:

CLO 1	define a practical problem, discuss the issues faced by different stakeholders, and design workable solutions for the problems
CLO 2	integrate theoretical results and practical approaches, and to specify limitations of current developments
CLO 3	work in a team and to collaborate with members with different background
CLO 4	deliver actuarial results effectively in a written report and in oral presentations
CLO 5	develop further logical, critical thinking, creativity, technical report writing, communication and consultation skills

	CLO 6	explain to a non-actuarial audience the approaches of actuarial science as applied to problems in a financial security system		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in at least 24 credits of advanced level disciplinary core/elective courses in BSc(Actuarial Science) programme including (Pass in STAT3901, or already enrolled in this course; or Pass in STAT3909, or already enrolled in this course); and This capstone course is only for BSc(Actuarial Science) students, and is mutually exclusive with STAT4767 and STAT4798. The earliest that a student is allowed to take this capstone course is their year 3 study. Only for students admitted in 2024-25 or before.			
Offer in 2025 - 2026	Y 1st sem 2nd sem Offer in 2026 - 2027 : Y		**Examination**	No Exam
Grade Descriptors (A+ to F)	**A**	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.		
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.		
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.		
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.		
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.		
Communication-intensive Course	N			
Course Type	Project-based course			
Course Teaching & Learning Activities	**Activities**	**Details**		**No. of Hours**
	Reading / Self study	Tutorials, group work/project, reading/self-study		120
Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Research report	written report	50	CLO 1, 2, 3, 4, 5
	Oral presentation	oral presentation, progress, attendance and in-class discussion	50	CLO 1, 2, 3, 4, 5, 6
Course Website	http://moodle.hku.hk			

STAT4767	**Actuarial science internship (6 credits)**		**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)		**Quota**	---
Course Co-ordinator	Dr E A L Li, SCDS (Department of Statistics and Actuarial Science) *(ericli11@hku.hk)*			
Teachers Involved	(Various teachers as the assessors of oral presentations and written reports,Statistics & Actuarial Science)			
Course Objectives	This course is offered to actuarial science students who take on a 6-month full time or similar internships. The objective is for a student to complete this course as a project based on his/her internship.			
Course Contents & Topics	This course will include a written report which should emphasize important working/ educational experiences encountered by the student during his/her internship. In many situations, this would mean a report of the project(s) that the student has been involved in during his/her internship. The course will also include a conflict resolution role-play and email writing in the workplace.			
Course Learning Outcomes	On successful completion of this course, students should be able to:			
	CLO 1	gain practical experiences during internship		
	CLO 2	describe basic actuarial practices learned during the internship in a written report		
	CLO 3	explain how actuarial theories learned in University can be applied in practice in a written report		
	CLO 4	successfully resolve conflicts in the workplace through oral negotiation strategies		
	CLO 5	effectively communicate in the workplace through email		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in at least 24 credits of advanced level disciplinary core/elective courses in BSc(Actuarial Science) programme including STAT3901; and This capstone course is only for BSc(Actuarial Science) students; and is mutually exclusive with STAT4711. The earliest that a student is allowed to take this capstone course is their year 3 study. Only for students admitted in 2024-25 or before.			
Offer in 2025 - 2026	Y 1st sem 2nd sem Offer in 2026 - 2027 : Y		**Examination**	No Exam
Grade Descriptors Distinction/Pass/Fail	**Distinction**	Demonstrates excellent ability in applying knowledge to solve problems in the workplace. Demonstrates excellent performance in handling and carrying out the work required in the job or assigned by supervisor(s). Establishes highly effective collaboration and communication with supervisor(s), colleagues, and clients in the job. Successfully fulfills the requirements set out in the Course Description regarding working hours, with excellent performance in written and oral report, and excellent evaluation by supervisor(s), etc.		
	Pass	Able to apply knowledge to solve problems in the workplace. Successfully handles and carries out the work required in the job or assigned by supervisor(s). Establishes effective collaboration and communication with supervisor(s), colleagues, and clients in the job. Successfully fulfills the requirements set out in the Course Description regarding working hours, written and oral report, and evaluation by supervisor(s), etc. Students demonstrating excellent performance in the above would be awarded a grade of "Distinction".		
	Fail	Very limited or no ability to solve problems in the workplace. Fails to handle or carry out the work required in the job or assigned by supervisor(s). Fails to establish effective collaboration or communication with supervisor(s), other colleagues, or clients in the job. Fails to satisfy the requirements set out in the Course Description regarding working hours, written and oral report, or evaluation by supervisor(s), etc.		
Communication-intensive Course	Y			
Course Type	Internship			
Course Teaching & Learning Activities	**Activities**	**Details**		**No. of Hours**
	Internship work	it is expected that students are to work at least 6 months or 120 working days		960
Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods**

				to CLO Mapping
	Written report	written report	30	CLO 1, 2, 3
	Oral presentation	oral presentation and workshop on effective communications	70	CLO 1, 2, 3, 4, 5
Course Website	http://moodle.hku.hk			
Additional Course Information	Despite no weighting for this assessment component, the completion of the employer's evaluation form by the employer/direct supervisor is required for passing the course. Satisfactory completion of this course can be counted towards the Capstone requirement. Details of internship will be recorded on the student's transcript. This course will be assessed on "Pass/Fail" basis. Students who are interested to enrol in this course should contact the Department to obtain the approval. Enrolment of this course is not conducted via the online course selection system and should be made through the relevant Department/School office after approval has been obtained from the course coordinator.			

STAT4798	**Statistics and actuarial science project (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	50
Course Co-ordinator	Prof S M S Lee, SCDS (Department of Statistics and Actuarial Science) *(smslee@hku.hk)*		
Teachers Involved	(Various teachers as the assessors of oral presentations and written reports,Statistics & Actuarial Science)		
Course Objectives	Each year a few projects suitable for Actuarial Science students will be offered to provide students with practical experience in approaching a real problem, in report writing and in oral presentation.		
Course Contents & Topics	These projects, under the supervision of individual staff members, involve the applications of statistics and/or probability in a wide range of problems of practical and/or academic interests.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 formulate meaningful research problems CLO 2 learn and apply advanced techniques in probability and/or statistics to solve real life problems CLO 3 summarize and present research findings in a professional manner		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in at least 24 credits of advanced level disciplinary core/elective courses in BSc(Actuarial Science) programme including STAT3902 and STAT3907; and Pass or already enrolled in at least one of the following courses: STAT3911, STAT4602, STAT4904; and This capstone course is only for BSc(Actuarial Science) students; and subject to the consent of course coordinator. This course is mutually exclusive with STAT4711. The earliest that a student is allowed to take this capstone course is their year 3 study. Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 1st sem 2nd sem Offer in 2026 - 2027 : Y	**Examination**	No Exam

Grade Descriptors (A+ to F)

A	Demonstrate thorough grasp of the subject. Show strong analytical and critical abilities and logical thinking, with evidence of original thought. Insightful use and critical analysis / evaluation of information drawn from a full range of high quality sources and to quote/reference aptly. Critical use of data and results to draw appropriate and insightful conclusions. Apply highly effective organizational and presentational skills. [Work of A+ should show considerable additional work beyond that is required in wider areas relevant to the topic.]
B	Demonstrate substantial grasp of the subject. Evidence of analytical and critical abilities and logical thinking. Critical use of relevant information from sources, showing ability to make meaningful comparisons between different secondary interpretations and to quote/reference aptly. Correct use of data of results to draw appropriate conclusions. Apply effective organizational and presentational skills.
C	Demonstrate general but incomplete grasp of the subject. Evidence of some analytical and critical abilities and logical thinking. Use of relevant information from sources, showing ability to make comparisons between different interpretations and to quote/reference aptly. Mostly correct but some erroneous use of data and results to draw appropriate conclusions. Apply moderately effective organizational and presentational skills.
D	Demonstrate partial but limited grasp, with retention of some relevant information, of the subject. Evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Demonstrate use and reference of several sources, but mainly through summary rather than analysis and comparison. Limited ability to use data and results to draw appropriate conclusions. Apply limited or barely effective organizational and presentational skills.
Fail	Demonstrate evidence of little or no grasp of the knowledge and understanding of the subject. Evidence of little or lack of analytical and critical abilities, logical and coherent thinking. Limited use of secondary sources and no critical comparison of them. Misuse of data and results and/or unable to draw appropriate conclusions. Organization and presentational skills are minimally effective or ineffective.

Communication-intensive Course	N
Course Type	Project-based course

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Reading / Self study		120

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Research report	written report	60	CLO 1, 2, 3
Oral presentation	oral presentation & in-class discussion	40	CLO 1, 2, 3

Course Website	http://moodle.hku.hk
Additional Course Information	Approval is subject to past academic performance.

STAT4901	**Risk theory II (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	TBC, SCDS (Department of Statistics and Actuarial Science) *(ugenq@hku.hk)*		
Teachers Involved			
Course Objectives	This course is an advanced course in risk theory which extends various topics discussed in STAT3906. It discusses utility theory, ruin theory, aggregate claims process, and related topics.		
Course Contents & Topics	Utility theory; discrete ruin model; compound Poisson risk model; ruin probability; reinsurance; adjustment coefficient; Lundbergs inequality; Tijms approximation; non-homogeneous birth process; contagion model; mixed Poisson process; inflation model; IBNR (Incurred But Not Reported) claims; mixed Erlang distributions; stop-loss moments; equilibrium distributions.		
Course Learning Outcomes	On successful completion of this course, students should be able to:		

CLO 1	understand utility theory including some commonly used utility functions, Jensens inequality, risk aversion and utility maximization
CLO 2	define discrete and continuous ruin models
CLO 3	calculate the adjustment coefficient, Lundbergs inequality and Tijms approximation in ruin theory
CLO 4	understand the effect of reinsurance and change of parameters on ruin probability
CLO 5	understand non-homogeneous birth process and its applications as contagion models for claim frequencies
CLO 6	understand mixed Poisson process and its applications including the inflation model and the IBNR model
CLO 7	derive the relationship between stop-loss moments and equilibrium distributions

Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3906 Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	N Offer in 2026 - 2027 : N	**Examination**	---

Grade Descriptors (A+ to F)

A	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

Communication-intensive Course	N
Course Type	Lecture-based course

Course Teaching & Learning Activities

Activities	**Details**	**No. of Hours**
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
Examination	One 3-hour written examination	75	CLO 1, 2, 3, 4, 5, 6
Assignments	Coursework (assignments, tutorials, and a class test)	25	CLO 1, 2, 3, 4, 5, 6

Required/recommended reading and online materials	Klugman S.A., Panjer H.H., & Willmot G.E.: Loss Models: From Data to Decisions (John Wiley & Sons, 2007, 3rd edition). Kaas R., Goovaerts M., Dhaene J., & Denuit M.: Modern Actuarial Risk Theory (Springer, 2004, 1st edition). Bowers N.L., Gerber H.U., Hickman J.C. & Jones D.A.: Actuarial Mathematics (Society of Actuaries, 1997, 2nd edition). Willmot G.E. & Lin X.S.: Lundberg Approximations for Compound Distributions with Insurance Applications (Springer, 2000, 1st edition).
Course Website	http://moodle.hku.hk

STAT4902	**Selected topics in actuarial science (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	TBC, SCDS (Department of Statistics and Actuarial Science) *(ugenq@hku.hk)*		
Teachers Involved			
Course Objectives	This course is an advanced course in actuarial science which discusses selected topics which potential graduate students will find useful. It focuses on tools that are in the frontier of actuarial risk management with examples on applications.		
Course Contents & Topics	The contents will be chosen from the following topics: Enterprise risk management; Risk identification and taxonomy; Copulas; Extreme value theory; Applications to risk management with emphasis in insurance; Other topics as determined by the instructor		
Course Learning Outcomes	On successful completion of this course, students should be able to:		

CLO 1	understand, identify and classify different types of risks
CLO 2	understand and apply copula to model risk dependence
CLO 3	understand and apply extreme value theory
CLO 4	explain approaches for managing risks

Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3906 Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	N Offer in 2026 - 2027 : N	**Examination**	---

Grade Descriptors (A+ to F)

A	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.

	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	Y	
Course Type	Lecture-based course	

Course Teaching & Learning Activities	**Activities**	**Details**	**No. of Hours**
	Lectures		36
	Tutorials		12
	Reading / Self study		100

Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Test	Midterm	45	CLO 1, 2, 3, 4
	Assignments	3 assignments	15	CLO 1, 2, 3, 4
	Project reports	Written report	20	CLO 3, 4
	Presentation	Oral presentation	20	CLO 3, 4

Required/recommended reading and online materials	- Financial Enterprise Risk Management, Sweeting P., (Cambridge University Press, 2017, 2nd edition) - Actuarial Theory for Dependent Risks, Denuit M., Dhaene J., Goovaerts M., Kaas R., (Wiley, 2005, 1st edition) - Loss Models: Further Topics, Klugman S.A., Panjer H.H., Willmot G.E., (Wiley, 2013, 1st edition)
Course Website	http://moodle.hku.hk

STAT4903	**Actuarial techniques for general insurance (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Dr D Lee, SCDS (Department of Statistics and Actuarial Science) *(leedav@hku.hk)*		
Teachers Involved	(Dr D Lee,Statistics & Actuarial Science)		
Course Objectives	The purpose of this course is to develop knowledge of the basic techniques for ratemaking and estimating claim liabilities for general insurance. Application of the actuarial techniques to resolve general insurance problems will be emphasized. The course also provides general knowledge on the general insurance market in Hong Kong. Students will acquire the fundamental concept on general insurance actuarial science together with the supporting calculations.		
Course Contents & Topics	1. General insurance market in Hong Kong - Introduction of general insurance markets - Regulations on general insurance 2. Basic techniques for ratemaking - Techniques related to exposures - Techniques related to premiums - Techniques related to loss and loss adjustment expenses - Calculate the underwriting expense provisions - Pure premium methods - Loss ratio methods - Considerations when selecting the final rates 3. Estimating claim liabilities - Data requirement - Build and analyze claim development triangles - Expected claims method - Frequency-severity methods - Bornhuetter-Ferguson and Benktander methods - Appraisal and validation of the estimated results		

Course Learning Outcomes	On successful completion of this course, students should be able to:
	CLO 1 describe the features and underlying risks of general insurance products
	CLO 2 use appropriate techniques to adjust premium, exposure and expense data for use in ratemaking procedures
	CLO 3 calculate the premium rate for basic general insurance products
	CLO 4 estimate the claims liabilities for general insurance products

Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3906, or already enrolled in this course. Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 1st sem Offer in 2026 - 2027 : Y	**Examination**	Dec

Grade Descriptors (A+ to F)		
	A	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	N	

Course Type	Lecture-based course			
Course Teaching & Learning Activities	**Activities**	**Details**		**No. of Hours**
	Lectures			36
	Tutorials			12
	Reading / Self study			100
Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Examination	One 3-hour written examination	75	CLO 2, 3
	Assignments	Coursework (assignments, tutorials, and a class test)	25	CLO 1, 2, 3
Required/recommended reading and online materials	Friedland, J.F., Estimating Unpaid Claims Using Basic Techniques, Casualty Actuarial Society, Third Version, July 2010 Werner, G, and Modlin, C., Basic Ratemaking, Casualty Actuarial Society, Fifth Edition, May 2016 Brown, R.L. and Lennox, W.S., Introduction to Ratemaking and Loss Reserving for Property and Casualty Insurance, ACTEX Publications, Fifth edition, 2022			
Course Website	http://moodle.hku.hk			

STAT4904	**Statistical learning for risk modelling (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Dr A Lo, SCDS (Department of Statistics and Actuarial Science) *(amb10@hku.hk)*		
Teachers Involved	(Dr A Lo,Statistics & Actuarial Science)		
Course Objectives	To make sense of the vast and complex data sets that have emerged in insurance and finance, it is essential to have a firm understanding of the basic statistical modelling and prediction techniques. This course introduces some useful predictive analytics techniques, such as principal component analysis, naive Bayes classification, decision tree models, and cluster analysis. The R programming language will be used for actual implementation.		
Course Contents & Topics	Basics of statistical learning, cross-validation, linear model selection and regularization (subset selection, shrinkage methods, dimensional reduction methods), tree-based methods (decision trees, bagging, boosting, random forests), principal component analysis, naive Bayes classification, cluster analysis (K-means clustering, hierarchical clustering), deep learning, survival analysis, multiple testing.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 understand and apply a wide range of predictive analytics techniques for risk modelling CLO 2 apply the techniques by using the R programming language and interpret the outputs CLO 3 recognize and compare the characteristics, strengths and weaknesses of different methods		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3907 or STAT3600; and Not for students who have passed in STAT3612, or already enrolled in this course; and For BSc(Actuarial Science) students only. Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y	**Examination**	May

Grade Descriptors (A+ to F)	**A**	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

Communication-intensive Course	N			
Course Type	Lecture-based course			
Course Teaching & Learning Activities	**Activities**	**Details**		**No. of Hours**
	Lectures			36
	Tutorials			12
	Reading / Self study			100
Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Examination	One 2-hour written examination	75	CLO 1, 2, 3
	Assignments	Coursework (assignments, class test(s) and computer-based project(s))	25	CLO 1, 2, 3
Required/recommended reading and online materials	An Introduction to Statistical Learning, with Applications in R, James, Witten, Hastie, Tibshirani, 2021, New York: Springer			
Course Website	http://moodle.hku.hk			

STAT7609	**Research methods in statistics (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof K Zhu, SCDS (Department of Statistics and Actuarial Science) *(mazhuke@hku.hk)*		
Teachers Involved	(Prof K Zhu,Statistics & Actuarial Science)		

Course Objectives	This course introduces some statistical concepts and methods which potential graduate students will find useful in preparing for work on a research degree in statistics. Focus is on applications of state-of-the-art statistical techniques and their underlying theory.		
Course Contents & Topics	Contents may be selected from: (1) Basic asymptotic methods: modes of convergence; stochastic orders; laws of large numbers; central limit theorems; delta method; Edgeworth expansions; saddlepoint approximations. (2) Parametric and nonparametric likelihood methods: high-order approximations; profile likelihood and its variants; signed likelihood ratio statistics; empirical likelihood. (3) Nonparametric statistical inference: sample quantiles; sign and rank tests; Kolmogorov-Smirnov test; nonparametric regression; density estimation; kernel methods. (4) Computationally-intensive methods: cross-validation; bootstrap; permutation methods. (5) Robust methods: measures of robustness; M-estimator; L-estimator; R-estimator; estimating functions. (6) U-statistics, projection methods. (7) Other topics as determined by the instructor.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 comprehend the language and technicalities found in statistical research literature CLO 2 understand the use of standard mathematical tools for conducting statistical research CLO 3 apply a variety of research tools to solve standard statistical problems CLO 4 acquire exposure to some developments in contemporary statistical research		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3600 or STAT3907 Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 1st sem Offer in 2026 - 2027 : Y	**Examination**	Dec
Grade Descriptors (A+ to F)	**A** Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills. **B** Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills. **C** Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills. **D** Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills. **Fail** Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.		
Communication-intensive Course	N		
Course Type	Lecture-based course		

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination	One 2-hour written examination	60	CLO 1, 2, 3, 4
Assignments	Coursework (assignments, tutorials, and a class test)	40	CLO 1, 2, 3, 4

Required/recommended reading and online materials	Efron, B. and Tibshirani, R.J. (1993). An Introduction to the Bootstrap. Chapman & Hall: New York. Owen, A.B. (2001). Empirical Likelihood. Chapman & Hall: Boca Raton. Shao, J. (1999). Mathematical Statistics. Springer: New York. Vaart, A. (1998). Asymptotic Statistics. Cambridge: Cambridge University Press.
Course Website	http://moodle.hku.hk

STAT7610	**Advanced probability (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof M Hofert, SCDS (Department of Statistics and Actuarial Science) *(mhofert@hku.hk)*		
Teachers Involved	(Prof M Hofert,Statistics & Actuarial Science)		
Course Objectives	This course provides an introduction to measure theory and probability. The course will focus on some basic concepts in theoretical probability which are important for students to do research in actuarial science, probability and statistics.		
Course Contents & Topics	Contents include: sigma-algebra, measurable space, measure and probability, measure space and probability space, measurable functions, random variables, integration theory, characteristic functions, convergence of random variables, Hilbert spaces, conditional expectation, martingales.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 understand the fundamental measure theory and probability theory CLO 2 learn the general concept of integration, understand the monotone convergence theorem, Fatou's lemma and dominated convergence theorem CLO 3 understand the concept of conditional expectation CLO 4 have some elementary knowledge of martingale		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3603 or STAT3903 Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	Y 2nd sem Offer in 2026 - 2027 : Y	**Examination**	May

Grade Descriptors (A+ to F)	**A**	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	N	
Course Type	Lecture-based course	

Course Teaching & Learning Activities	**Activities**	**Details**	**No. of Hours**
	Lectures		36
	Tutorials		12
	Reading / Self study		100

Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Examination	One 2-hour written examination	60	CLO 1, 2, 3, 4
	Assignments	Coursework (assignments, tutorials, and a class test)	40	CLO 1, 2, 3, 4

Required/recommended reading and online materials	Jean Jacod and Philip Protter: Probability Essentials (Universitext, Springer-Verlag, New York, 2004, 2nd edition) Chung K. L.: A Course in Probability Theory (Academic Press, 2001, 3rd edition)
Course Website	http://moodle.hku.hk

STAT7611	**Computational statistics (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	TBC, SCDS (Department of Statistics and Actuarial Science) *(ugenq@hku.hk)*		
Teachers Involved			
Course Objectives	This course aims to give undergraduate and postgraduate students in statistics a background in modern computationally intensive methods in statistics. It emphasizes the role of computation as a fundamental tool of discovery in data analysis, of statistical inference, and for development of statistical theory and methods.		
Course Contents & Topics	Contents include: Bayesian statistics, Markov chain Monte Carlo methods including Gibbs sampler, the Metropolis-Hastings algorithm, and data augmentation; Generation of random variables including the inversion methods, rejection sampling, the sampling/importance resampling method; Optimization techniques including Newton' s method, expectation-maximization (EM) algorithm and its variants, and minorization-maximization (MM) algorithms; Integration including Laplace approximations, Gaussian quadrature, the importance sampling method; and other topics such as Hidden Markov models, neural networks, and Bootstrap methods.		

Course Learning Outcomes	On successful completion of this course, students should be able to:
	CLO 1 understand the importance of the technique for generating random variables in Bayesian statistics, Monte Carlo integration and bootstrapping methods
	CLO 2 realize the advantages and disadvantages of the Newton-Raphson algorithm and the Fisher scoring algorithm and apply them to fit generalized linear models
	CLO 3 understand the essence and basic principle of the EM-type algorithms and MM-type algorithms, realize their range of application, and apply them to solve practical problems
	CLO 4 apply EM-type algorithms to find the posterior mode and apply Markov chain Monte Carlo methods to generate posterior samples
	CLO 5 apply Bootstrap methods to obtain estimated standard errors of estimators and confidence intervals of parameters for both parametric and non-parametric cases

Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3600 or STAT3907 Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	N Offer in 2026 - 2027 : N	**Examination**	---

Grade Descriptors (A+ to F)	**A**	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.
	B	Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.
	C	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.
	D	Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.
	Fail	Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	N	
Course Type	Lecture-based course	

Course Teaching & Learning Activities	**Activities**	**Details**	**No. of Hours**
	Lectures		36

	Tutorials			12
	Reading / Self study			100
Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Examination	One 2-hour written examination	50	CLO 1, 2, 3, 4, 5
	Assignments	Coursework (assignments, practical work, and a term test)	50	CLO 1, 2, 3, 4, 5
Required/recommended reading and online materials	Tan, M., Tian, G.L. and Ng, K.W: Bayesian Missing Data Problems: EM, Data Augmentation and Non-iterative Computation (Chapman & Hall/CRC, Boca Raton, 2010). Givens, G.H. and Hoeting, J.A.: Computational Statistics (Wiley, 2005) Robert, C.P. and Casella, G.: Monte Carlo Statistical Methods (Springer, 2005, 2nd edition)			
Course Website	http://moodle.hku.hk			

STAT7614	**Advanced statistical modelling (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	Prof C Wang, SCDS (Department of Statistics and Actuarial Science) *(stacw@hku.hk)*		
Teachers Involved	(Prof C Wang,Statistics & Actuarial Science)		
Course Objectives	This course introduces modern methods for constructing and evaluating statistical models and their implementation using popular computing software, such as R or Python. It will cover both the underlying principles of each modelling approach and the model estimation procedures.		
Course Contents & Topics	Topics from: (i) Linear regression models; (ii) Generalized linear models; (iii) Model selection and regularization; (iv) Kernel and local polynomial regression; selection of smoothing parameters; (v) Generalized additive models; (vi) Hidden Markov models and Bayesian networks.		
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 describe clearly the basic characteristic and rationale behind the formulation of each statistical model CLO 2 identify for a given set of data the most suitable statistical model and tools to use CLO 3 demonstrate the ability of using computing software for building scoring models for various management and prediction problems involving binary and counting responses; employing the powerful tool of kernel smoothing using R or Python for real data mining problems		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3600 or STAT3907 Only for students admitted in 2024-25 or before.		
Offer in 2025 - 2026	N Offer in 2026 - 2027 : N	**Examination**	---
Grade Descriptors (A+ to F)	**A** Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills. **B** Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills. **C** Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills. **D** Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills. **Fail** Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.		
Communication-intensive Course	N		
Course Type	Lecture-based course		

Course Teaching & Learning Activities	**Activities**	**Details**		**No. of Hours**
	Lectures			24
	Tutorials			12
	Reading / Self study			100
Assessment Methods and Weighting	**Methods**	**Details**	**Weighting in final course grade (%)**	**Assessment Methods to CLO Mapping**
	Examination	One 2-hour written examination	50	CLO 1, 2, 3
	Assignments	Coursework (assignments and class test(s))	50	CLO 1, 2, 3
Required/recommended reading and online materials	R.H. Myers et al., 2010: Generalized Linear Models (2nd ed.), Wiley W. Hardle et al., 2004: Nonparametric and Semi-parametric Models. Springer W. Zucchini & I.L. MacDonald, 2009: Hidden Markov Models for Time Series: An Introduction Using R, CRC Press M. Scutari & J. Denis, 2015: Bayesian Networks: with Examples in R, CRC Press			
Course Website	http://moodle.hku.hk			

STAT7615	**Advanced quantitative risk management and finance (6 credits)**	**Academic Year**	2025
Offering Department	SCDS (Department of Statistics and Actuarial Science)	**Quota**	---
Course Co-ordinator	TBC, SCDS (Department of Statistics and Actuarial Science) *(ugenq@hku.hk)*		
Teachers Involved			
Course Objectives	This course covers statistical methods and models of importance to risk management and finance and links finance theory to market practice via statistical modeling and decision making. Emphases will be put on empirical analyses to address the discrepancy between finance theory and market data.		
Course Contents & Topics	Contents include: Elementary Stochastic Calculus; Basic Monte Carlo and Quasi-Monte Carlo Methods; Variance Reduction Techniques; Simulating the value of options and the value-at-risk for risk management; Review of		

	univariate volatility models; multivariate volatility models; Value-at-risk and expected shortfall; estimation, back-testing and stress testing; Extreme value theory for risk management.
Course Learning Outcomes	On successful completion of this course, students should be able to: CLO 1 apply Monte Carlo methods to determine the value of options and other derivative securities CLO 2 predict volatility of a set of securities using appropriate models CLO 3 estimate the value-at-risk under extreme value theory
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT4608 Only for students admitted in 2024-25 or before.
Offer in 2025 - 2026	N Offer in 2026 - 2027 : N **Examination** ---
Grade Descriptors (A+ to F)	**A** Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills. **B** Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills. **C** Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills. **D** Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills. **Fail** Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.
Communication-intensive Course	N
Course Type	Lecture-based course

Course Teaching & Learning Activities

Activities	Details	No. of Hours
Lectures		36
Tutorials		12
Reading / Self study		100

Assessment Methods and Weighting

Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
Examination	One 2-hour written examination	75	CLO 1, 2, 3
Assignments	Coursework (assignments, tutorials, and a class test)	25	CLO 1, 2, 3

Required/recommended reading and online materials	McLeish, Don L.: Monte Carlo Simulation & Finance. (Wiley, 2005). Glasserman, Paul: Monte Carlo Methods in Financial Engineering. (Springer, 2003). Danielsson Jon: Financial Risk Forecasting (Willy 2011) McNeil, A. J., Frey, R. & Embrechts, P.: Quantitative Risk Management (Princeton, 2005) Tsay, R.S.: Analysis of Financial Time Series (Wiley, 2010, 3rd edition)
Course Website	http://moodle.hku.hk

SECTION VII Degree Regulations

REGULATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN ACTUARIAL SCIENCE BSc(ActuarSc)

For students admitted to the first year in the academic year 2024-25 or before

(See also General Regulations and Regulations for First Degree Curricula)

Definitions

AS1[1] For the purpose of these regulations and the syllabuses for the degree of BSc in Actuarial Science, unless the context otherwise requires:

"Course" means a course of study, with a credit value expressed as a number of credit-units as specified in the syllabuses for a degree curriculum.

"Syllabus" means courses taught by departments, centres, and schools, offered under a degree curriculum.

"Credits" or "credit-units" means the value assigned to each course to indicate its study load relative to the total study load under a degree curriculum. The study load refers to the hours of student learning activities and experiences, both within and outside the classroom, and includes contact hours and time spent on assessment tasks and examinations. Candidates who satisfactorily complete courses with a credit value earn the credits assigned to these courses.

Admission to the BSc in Actuarial Science degree

AS2 To be eligible for admission to the BSc in Actuarial Science degree, candidates shall:

(a) comply with the General Regulations;

(b) comply with the Regulations for First Degree Curricula; and

(c) satisfy all the requirements of the curriculum in accordance with these regulations and the syllabuses.

Period of study

AS3 The curriculum for the BSc(ActuarSc) degree shall normally require eight semesters of full-time study, extending over not fewer than four academic years, and shall include any assessment to be held during and/or at the end of each semester. Candidates shall not in any case be permitted to extend their studies beyond the maximum period of registration of six academic years.

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[1] This regulation should be read in conjunction with UG1 of the Regulations for First Degree Curricula.

Selection of courses

AS4 Candidates shall select their courses in accordance with these regulations and the guidelines specified in the syllabuses before the beginning of each semester. Any change to the selection of courses shall be made only during the add/drop period of the semester in which the course begins, and such changes shall not be reflected in the transcript of the candidate. Requests for changes after the designated add/drop period of the semester shall not be considered.

Curriculum requirements and progression in curriculum

AS5

(a) Candidates shall satisfy the requirements prescribed in UG5 of the Regulations of First Degree Curricula.

(b) Candidates shall take not fewer than 240 credits, in the manner specified in these regulations and the syllabuses, including 132 credits of the required courses as prescribed in the professional core of the BSc(ActuarSc) degree curriculum.

(c) Candidates shall normally be required to take not fewer than 24 credits nor more than 30 credits in any one semester (except the summer semester) unless otherwise permitted or required by the Board of the Faculty, or except in the last semester of study when the number of outstanding credits required to complete the curriculum requirements may be fewer than 24 credits.

(d) Candidates may, of their own volition, take additional credits not exceeding 6 credits in each semester, and/or further credits during the summer semester, accumulating up to a maximum of 72 credits in one academic year. With the special permission of the Board of the Faculty, candidates may exceed the annual study load of 72 credits in a given academic year provided that the total number of credits taken does not exceed the maximum curriculum study load of 288 credits for the normative period of study specified in the curriculum regulations, save as provided for under AS5(e).

(e) Where candidates are required to make up for failed credits, the Board of the Faculty may give permission for candidates to exceed the annual study load of 72 credits provided that the total number of credits taken does not exceed the maximum curriculum study load of 432 credits for the maximum period of registration specified in the curriculum regulations.

(f) Candidates may, with the approval of the Board of the Faculty, transfer credits for courses completed at other institutions at any time during their candidature. The number of transferred credits will be recorded on the transcript of the candidate, but the results of courses completed at other institutions shall not be included in the calculation of the GPA. The number of credits to be transferred shall not exceed half of the total credits normally required under the degree curricula of the candidates during their candidature at the University.

(g) Candidates shall be recommended for discontinuation of their studies if they have:

  (i) failed to complete successfully 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 AS3, unless otherwise permitted by the Board of the Faculty.

Advanced standing

AS6 Advanced standing may be granted to candidates in recognition of studies completed successfully before admission to the University in accordance with UG2 of the Regulations for First Degree Curricula. Credits granted for advanced standing will be recorded on the transcript of the candidate but shall not be included in the calculation of the GPA.

Assessment

AS7

(a) Candidates shall be assessed for each of the courses for which they have registered, and assessment may be conducted in any combination of continuous assessment of coursework, written examinations and/or any other assessable activities. Only passed courses will earn credits.

(b) Candidates who are unable, because of illness, to be present at the written examination of any course may apply for permission to present themselves at a supplementary examination of the same course to be held before the beginning of the First Semester of the following academic year. Any such application shall be made on the form prescribed within seven calendar days of the first day of the candidate's absence from any examination. Any supplementary examination shall be part of that academic year's examinations, and the provisions made in the regulations for failure at the first attempt shall apply accordingly.

(c) Candidates shall not be permitted to repeat a course for which they have received a D grade or above for the purpose of upgrading.

(d) Candidates are required to make up for failed courses in the following manner: repeating the failed course by undergoing instruction and satisfying the assessment, or for elective courses, taking another course in lieu and satisfying the assessment requirements.

(e) There shall be no appeal against the results of examinations and other forms of assessment.

Award of BSc in Actuarial Science Degree

AS8 To be eligible for the award of the BSc in Actuarial Science degree, candidates shall have:

(a) satisfied the requirements in UG5 of the Regulations for First Degree Curricula;

(b) passed not fewer than 240 credits, comprising 132 credits of the required courses as prescribed in the professional core of the BSc(ActuarSc) degree curriculum.

Honours classification

AS9

(a) Honours classifications shall be awarded in five divisions: First Class Honours, Second Class Honours Division One, Second Class Honours Division Two, Third Class Honours, and Pass. The classification of honours shall be determined by the Board of Examiners for the Degree of BSc(ActuarSc) in accordance with the following Graduation GPA scores, with all courses taken (including failed courses, but not including courses approved by the Senate graded as 'Pass', 'Fail' or 'Distinction') carrying weightings which are proportionate to their credit values*:

Class of honours	*GGPA range*
First Class Honours	3.60 – 4.30
Second Class Honours	(2.40 – 3.59)
Division One	3.00 – 3.59
Division Two	2.40 – 2.99
Third Class Honours	1.70 – 2.39
Pass	1.00 – 1.69

(b) Honours classification may not be determined solely on the basis of a candidate's Graduation GPA and the Board of Examiners for the Degree of BSc(ActuarSc) may, at its absolute discretion and with justification, award a higher class of honours to a candidate deemed to have demonstrated meritorious academic achievement but whose Graduation GPA falls below the range stipulated in UG9(a) of the higher classification by not more than 0.1 Grade Point.

(c) A list of candidates who have successfully completed all degree requirements shall be posted on Faculty noticeboards.

* For students admitted between 2017-18 and 2024-25 who have successfully completed six Common Core courses, the calculation of Graduation GPA is subject to the proviso that either five Common Core course with the highest grades (covering all four Areas of Inquiry), or all six courses will be counted towards Graduation GPA, depending on which generates the higher Graduation GPA.

REGULATIONS FOR FIRST DEGREE CURRICULA[1]

(See also General Regulations)

UG 1 Definitions:

For the purpose of regulations and syllabuses for all first degree curricula unless otherwise defined —

An 'academic year' comprises two semesters, the first semester to commence in September and end in December, and the second semester to commence in January and end in May/June, on dates as prescribed by the Senate. It includes, normally at the end of each semester, a period during which candidates are assessed. For some curricula, a 'summer semester' may be organized in addition to the normal two semesters. Clinical curricula have extended semesters.

A 'summer semester' normally comprises seven to eight weeks of intensive timetabled teaching and assessment to commence four weeks after the end of the second semester assessment period, and to conclude about one week before the start of the next academic year.

The 'maximum period of registration' is equivalent to a period which is 150% of the curriculum's normative period of study as specified in the degree regulations, provided that where this results in a residual fraction of an academic year, the fractional period shall be extended to one full academic year.

'Degree curriculum' means the entire study requirements for the award of an undergraduate degree.

'Major programme' means the study requirements, including a capstone experience, for a single major area of disciplinary, interdisciplinary or multidisciplinary study, accumulating not fewer than 72 credits nor more than 96 credits, as prescribed in the syllabuses for a degree curriculum.

'Minor programme' means the study requirements for a single minor area of disciplinary, interdisciplinary or multidisciplinary study, accumulating not fewer than 36 credits nor more than 48 credits, as prescribed in the syllabuses for a degree curriculum.

'Professional core' refers to the study requirements, including a capstone experience, prescribed in the regulations and syllabuses for disciplinary studies in degree curricula which are not structured as major/minor programmes for reasons relating to professional qualification and/or accreditation.

'Course' means a course of study, with a credit value expressed as a number of credit-units as specified in the syllabuses for a degree curriculum.

'Disciplinary elective course' or 'Disciplinary Elective' means any course offered in the same major or minor programme or the professional core which can be taken by candidates to fulfill the curriculum requirements as specified in the syllabuses of the degree curriculum.

'Elective course' or 'Elective' means any course offered within the same or another curriculum, other than compulsory courses in the candidate's degree curriculum, that can be taken by the candidate in order to complete the credit requirements of the degree curriculum.

'Capstone experience' refers to one or more courses within the major programme or professional core which are approved by the Board of the Faculty for the purpose of

[1] These regulations are applicable to candidates admitted from 2022-23 onwards. Reference in these regulations to the powers of the Boards of Faculties shall be applicable to Senate Boards of Studies which administer first degree curricula.

integrating knowledge and skills acquired, and which are prescribed in the syllabuses of the degree curriculum.

'Syllabus' means courses taught by departments, centres, and schools, offered under a degree curriculum.

'Prerequisite' means a course or a group of courses which candidates must have completed successfully or a requirement which candidates must have fulfilled before being permitted to take the course in question.

'Corequisite' means a course which candidates must take in conjunction with the course in question.

'Credits' or 'credit-units' means the value assigned to each course to indicate its study load relative to the total study load under a degree curriculum. The study load refers to the hours of student learning activities and experiences, both within and outside the classroom, and includes contact hours and time spent on assessment tasks and examinations. Candidates who satisfactorily complete courses with a credit value earn the credits assigned to these courses.

'Grade Points' are standardized measurements of candidates' academic achievement in courses taken to satisfy the requirements of the degree curriculum and are expressed as a scale prescribed in these regulations.

'Grade Point Average' is a numerical measure of a candidate's academic achievement over a specified period of time. Each course attempted (including each failed course) is assigned a numerical value, with all courses carrying equal weighting. This numerical value is the product of grade points earned for the course and the credit value of that course. The 'Grade Point Average' is the sum of these numerical values divided by the total number of credits attempted:

$$GPA = \frac{\sum_i \textit{Course Grade Point} \times \textit{Course Credit Value}}{\sum_i \textit{Course Credit Value}}$$

(where 'i' stands for all passed and failed courses taken by the student over a specified period)

'Semester Grade Point Average' or 'Semester GPA' is the GPA in respect of courses attempted by a candidate (including failed courses) during a given semester.

'Year Grade Point Average' or 'Year GPA' is the GPA in respect of courses attempted by a candidate (including failed courses) during a given academic year.

'Cumulative Grade Point Average' or 'Cumulative GPA' is the GPA in respect of courses attempted by a candidate (including failed courses) at the time of calculation.

'Graduation Grade Point Average' or 'Graduation GPA' is the GPA in respect of courses attempted by a candidate (including failed courses) at the point of graduation. For students in the 2017-18 intake and thereafter who have successfully completed six Common Core courses, the calculation of Graduation GPA is subject to the proviso that either five Common Core courses with the highest grades (covering all four Areas of Inquiry), or all six courses will be counted towards Graduation GPA, depending on which generates the higher Graduation GPA.

'Assessment' refers to judgment about the quality and extent to which a student has achieved the stated learning objectives or learning outcomes. It includes all types of assessment activities which allow for such a judgment to be made. For the purpose of interpreting the relevant provisions of the Ordinance and the Statutes and where appropriate, reference to 'examination' or 'examinations' in the Ordinance and the Statutes shall include and cover all forms of 'assessment' and its related processes.

A 'transcript' refers to a transcript of the record of study of a candidate, issued by the

Registry of the University.

UG 2 Advanced standing:

Advanced standing may be granted to candidates in recognition of studies completed successfully before admission to the curriculum. Candidates who are awarded Advanced Standing will not be granted any further credit transfer for those studies for which Advanced Standing has been granted. The amount of credits to be granted for advanced standing shall be determined by the Board of the Faculty, in accordance with the following principles:

(a) at least half the number of credits of the degree curriculum normally required for award of the degree shall be accumulated through study at this University or from transfer of credits for courses completed at other institutions in accordance with Regulation UG 4(d); and

(b) in accordance with Statute III.5 and notwithstanding the granting of advanced and/or transfer credits, a minimum of two semesters of study at this University shall be required before a candidate is considered for the award of a first degree, other than a degree in medicine or surgery, and a minimum of four semesters of study at this University shall be required before a candidate is considered for a first degree in medicine or surgery.

Credits granted for advanced standing shall not normally be included in the calculation of the GPA unless permitted by the Board of the Faculty but will be recorded on the transcript of the candidate.

UG 3 Period of study:

The period of study of the curriculum shall be specified in the regulations governing the degree. To be eligible for award of the degree, a candidate shall fulfill all curriculum requirements within the maximum period of registration, unless otherwise permitted or required by the Board of the Faculty.

UG 4 Progression in curriculum:

(a) Candidates shall normally be required to take not fewer than 24 credits nor more than 30 credits in any one semester (except the summer semester) unless otherwise permitted or required by the Board of the Faculty, or except in the last semester of study when the number of outstanding credits required to complete the curriculum requirements is fewer than 24 credits.

(b) Candidates may, of their own volition, take additional credits not exceeding 6 credits in each semester, and/or further credits during the summer semester, accumulating up to a maximum of 72 credits in one academic year. With the special permission of the Board of the Faculty, candidates may exceed the annual study load of 72 credits in a given academic year provided that the total number of credits taken does not exceed the maximum curriculum study load for the normative period of study specified in the curriculum regulations, save as provided for under UG4(c).

(c) Where candidates are required to make up for failed credits, the Board of the Faculty may give permission for candidates to exceed the annual study load of 72 credits provided that the total number of credits taken does not exceed the maximum curriculum study load for the maximum period of registration specified in the curriculum regulations.

(d) Candidates may, with the approval of the Board of the Faculty, transfer credits for courses completed at other institutions at any time during their candidature. The number of transferred credits may be recorded in the transcript of the candidate, but the results of courses completed at other institutions shall not be included in the calculation of the GPA. The number of credits to be transferred shall not exceed half of the total credits normally required under the degree curricula of the candidates during their candidature at the University.

(e) 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 successfully 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 the regulations of the degree.

UG 5 Requirements for graduation:

To be eligible for admission to the degree, candidates shall fulfill the following requirements in addition to the requirements prescribed in the regulations and syllabuses governing the degree curriculum within the maximum period of registration:

(a) successful completion of 12 credits in English language enhancement, including 6 credits in Core University English[2] and 6 credits in an English in the Discipline course[3];

(b) successful completion of 6 credits in Chinese language enhancement[4];

(c) unless otherwise prescribed in the curriculum regulations and syllabuses, successful completion of 36 credits of courses in the Common Core Curriculum, comprising at least one and not more than two courses from each Area of Inquiry with not more than 24 credits of course being selected within one academic year except where candidates are required to make up for failed credits;

(d) successful completion of a capstone experience as specified in the syllabuses of the degree curriculum; and

(e) successful completion of any other non-credit bearing courses as required.

UG 6 Exemption:

Candidates may be exempted, with or without special conditions attached, from any of the requirements in UG 5 by the Senate in exceptional circumstances. Candidates who are so exempted must replace the number of exempted credits with courses of the same credit value.

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[2] Candidates who have achieved Level 5 or above in English Language in the Hong Kong Diploma of Secondary Education Examination, or equivalent, are exempted from this requirement, and Core University English is optional. Those who do not take this course should take an elective course in lieu, see *Regulation UG6*.

[3] (a) To satisfy the English in the Discipline (ED) requirement, candidates who have passed the ED course for a Major but subsequently change that Major are required to pass the ED course for the new Major, or either of the double Majors finally declared upon graduation irrespective of whether the second Major is offered within or outside of the candidates' home Faculty.

(b) Candidates declaring double Majors can, if they fail in the ED course for one of the Majors, either (i) re-take and successfully complete that failed ED course, or (ii) successfully complete the ED course for the other Major, irrespective of whether the Major is offered within or outside of the candidates' home Faculty.

(c) Candidates who undertake studies in double Majors or double degrees are not required to take a second ED course but may be advised by the Faculty to do so.

[4] Candidates who have not studied Chinese language during their secondary education may be exempted from this requirement and should take an elective course in lieu, see *Regulation UG6*.

UG 7 Assessment:

(a) Candidates shall be assessed for each of the courses for which they have registered, and assessment may be conducted in any combination of continuous assessment of coursework, written examinations and/or any other assessable activities. Only passed courses will earn credits.

(b) Candidates who are unable, because of illness, to be present at the written examination of any course may apply for permission to present themselves at a supplementary examination of the same course to be held before the beginning of the First Semester of the following academic year. Any such application shall be made on the form prescribed within two weeks of the first day of the candidate's absence from any examination. Any supplementary examination shall be part of that academic year's examinations, and the provisions made in the regulations for failure at the first attempt shall apply accordingly.

(c) Candidates suspended under Statute XXXI shall not be allowed to take, present themselves for, and participate in any assessments during the period of suspension, unless otherwise permitted by the Senate.

(d) Candidates shall not be permitted to repeat a course for which they have received a D grade or above for the purpose of upgrading.

(e) Candidates are required to make up for failed courses in the following manner as prescribed in the curriculum regulations:

(i) undergoing re-assessment/re-examination in the failed course to be held no later than the end of the following semester (not including the summer semester); or

(ii) re-submitting failed coursework, without having to repeat the same course of instruction; or

(iii) repeating the failed course by undergoing instruction and satisfying the assessments; or

(iv) for elective courses, taking another course *in lieu* and satisfying the assessment requirements.

(f) There shall be no appeal against the results of examinations and all other forms of assessment.

UG 8 Grading system:

(a) The grades, their standards and the grade points for assessment shall be as follows[5]:

Grade	*Standard*	*Grade Point*
A+	Excellent	4.3
A		4.0
A-		3.7
B+	Good	3.3
B		3.0
B-		2.7
C+	Satisfactory	2.3
C		2.0
C-		1.7
D+	Pass	1.3
D		1.0
F	Fail	0

(b) Special permission may be given by Senate for courses in individual curricula to be graded as 'Pass', 'Fail' or 'Distinction'. Such courses will not be included in the calculation of the GPA.

[5] UG 8 is not applicable to the respective Professional Core of the BDS and MBBS curricula.

UG 9 Honours classifications:

(a) Honours classifications shall be awarded in five divisions[6]: First Class Honours, Second Class Honours Division One, Second Class Honours Division Two, Third Class Honours, and Pass. The classification of honours shall be determined by the Board of Examiners for the degree in accordance with the following Graduate GPA scores (GGPA), with all courses taken (including failed courses) carrying weightings which are proportionate to their credit values[7]:

Class of honours	*GGPA range*
First Class Honours	3.60 – 4.30
Second Class Honours	(2.40 – 3.59)
Division One	3.00 – 3.59
Division Two	2.40 – 2.99
Third Class Honours	1.70 – 2.39
Pass	1.00 – 1.69

(b) Honours classification may not be determined solely on the basis of a candidate's Graduation GPA and the Board of Examiners for the degree may, at its absolute discretion and with justification, award a higher class of honours to a candidate deemed to have demonstrated meritorious academic achievement but whose Graduation GPA falls below the range stipulated in UG9(a) of the higher classification by not more than 0.1 Grade Point.

(c) A list of candidates who have successfully completed all degree requirements shall be posted on Faculty noticeboards.

[6] UG 9 is not applicable to the BChinMed, BDS and MBBS curricula.

[7] For students in the 2017-18 intake and thereafter who have successfully completed six Common Core courses, the calculation of Graduation GPA is subject to the proviso that either five Common Core course with the highest grades (covering all four Areas of Inquiry), or all six courses will be counted towards Graduation GPA, depending on which generates the higher Graduation GPA.

Teaching Weeks 2025-26 for Undergraduate and Taught Postgraduate Students

	SUN	MON	TUE	WED	THUR	FRI	SAT		Week
SEP-25		1	2	3	4	5	6	**FIRST SEMESTER: SEP 1 - DEC 23, 2025** First Day of Teaching: Sep 1, 2025	1
	7	8	9	10	11	12	13		2
	14	15	16	17	18	19	20		3
	21	22	23	24	25	26	27		4
	28	29	30						5
OCT-25				[1]	2	3	4		
	5	6	[7]	8	9	10	11		6
	12	13	14	15	16	17	18	Reading/Field Trip Week: Oct 13 - 18, 2025	7(Reading)
	19	20	21	22	23	24	25		8
	26	27	28	[29]	30	31			9
NOV-25							1		
	2	3	4	5	6	7	8		10
	9	10	11	12	13	14	15		11
	16	17	18	19	20	21	22		12
	23	24	25	26	27	28	29	Last Day of Teaching: Nov 29, 2025	13
	30								
DEC-25		1	2	3	4	5	6	Revision Period: Dec 1 - 5, 2025	14(Revision)
	7	8	9	10	11	12	13	Assessment Period: Dec 6 - 23, 2025	1
	14	15	16	17	18	19	20		2
	21	22	23	(24)	[25]	[26]	27		3
	28	29	30	<31>					Break
JAN-26					[1]	2	3		
	4	5	6	7	8	9	10		Break
	11	12	13	14	15	16	17	**SECOND SEMESTER: JAN 19 - MAY 26, 2026**	Break
	18	19	20	21	22	23	24	First Day of Teaching: Jan 19, 2026	1
	25	26	27	28	29	30	31		2
FEB-26	1	2	3	4	5	6	7		3
	8	9	10	11	12	13	14	Class Suspension Period for the Lunar New Year:	4
	15	<16>	[17]	[18]	[19]	20	21	Feb 17 - 23, 2026	5
	22	23	24	25	26	27	28		
MAR-26	1	2	3	4	5	6	7		6
	8	9	10	11	12	13	14	Reading/Field Trip Week: Mar 9 - 14, 2026	7(Reading)
	15	(16)	17	18	19	20	21		8
	22	23	24	25	26	27	28		9
	29	30	31						10
APR-26				1	2	[3]	[4]		
	5	[6]	[7]	8	9	10	11		11
	12	13	14	15	16	17	18		12
	19	20	21	22	23	24	25		13
	26	27	28	29	30				14
MAY-26						[1]	2	Last Day of Teaching: May 2, 2026	
	3	4	5	6	7	8	9	Revision Period: May 4 - 9, 2026	15(Revision)
	10	11	12	13	14	15	16	Assessment Period: May 11 - 26, 2026	1
	17	18	19	20	21	22	23		2
	24	[25]	26	27	28	29	30		3
	31								
JUN-26		1	2	3	4	5	6		Break
	7	8	9	10	11	12	13		Break
	14	15	16	17	18	[19]	20		Break
	21	22	23	24	25	26	27	**OPTIONAL SUMMER SEMESTER**	Break
	28	29	30					JUN 29 - AUG 22, 2026	1
JUL-26				[1]	2	3	4		
	5	6	7	8	9	10	11		2
	12	13	14	15	16	17	18		3
	19	20	21	22	23	24	25		4
	26	27	28	29	30	31			5
AUG-26							1		
	2	3	4	5	6	7	8		6
	9	10	11	12	13	14	15		7
	16	17	18	19	20	21	22		8
	23	24	25	26	27	28	29		
	30	31							

[ ] General Holiday

( ) University Holiday (Full Day)

< > University Holiday (afternoon only)

Reading/Field Trip Week

Revision Period

Class Suspension Period for the Lunar New Year

Assessment Period

Notes:

First Semester: 12 Mondays, 11 Tuesdays, 10 Wednesdays, 12 Thursdays, Fridays and Saturdays
Second Semester: 10.5 Mondays, 12 Tuesdays, 13 Wednesdays and Thursdays, 11 Fridays, 12 Saturdays

Useful contacts and websites

Faculty of Science	Office Location	:	Ground Floor, Chong Yuet Ming Physics Building
	Tel	:	3917 2683
	Fax	:	2858 4620
	Email	:	science@hku.hk (General Enquiries) sci.ug.enquiry@hku.hk (Academic Matters) sci.ug.el@hku.hk (Experiential Learning & Enrichment Opportunities)
	Website	:	https://www.scifac.hku.hk/
	(Please visit https://www.scifac.hku.hk/ for the latest updates of BSc courses, timetables, notices and forms)		
Departments/Schools			
Biological Sciences	Website	:	https://www.biosch.hku.hk/
Biomedical Sciences	Website	:	https://www.sbms.hku.hk/
Chemistry	Website	:	https://chemistry.hku.hk/
Earth and Planetary Sciences	Website	:	https://www.earthsciences.hku.hk/
Mathematics	Website	:	https://hkumath.hku.hk/web/index.php
Physics	Website	:	https://www.physics.hku.hk/
SCDS (Statistics and Actuarial Science)	Website	:	https://saasweb.hku.hk/
Academic Advising and Scholarships Office	Tel	:	3917 0128
	Website	:	https://aas.hku.hk/
Academic Services Office	Office Location	:	G04, Run Run Shaw Building
	Tel	:	3917 2433
	Fax	:	2540 1405
	Email	:	asoffice@hku.hk
	Website	:	https://ase.hku.hk/asoffice/
Common Core courses	Website	:	https://commoncore.hku.hk/
HKU Worldwide Undergraduate Exchange Programme	Website	:	https://intlaffairs.hku.hk/
Centre of Development and Resources for Students **(CEDARS)**	Tel	:	3917 2305
	Website	:	https://www.cedars.hku.hk/
University Health Service	Tel	:	3917 2501 (General enquiries) 2549 4686 (Medical appointments only)
	Website	:	https://www.uhs.hku.hk
Plagiarism	Website	:	https://tl.hku.hk/plagiarism/