BSc in Actuarial Science

Syllabuses and Regulations (4-year curriculum)

2018-19

Faculty of ScienceThe University of Hong Kong

SECTION I	Objectives and Learning Outcomes	
	<u> </u>	
SECTION II	Credit Unit Statement of BSc(ActuarSc) Degree Curriculum	2 -
ECTION III	List of BSc(ActuarSc) Courses on offer in 2018/19 and 2019/20	4 -
ECTION IV	Equivalency of HKDSE and other qualifications	
	The second of th	
ECTION V	BSc(ActuarSc) Programmes on offer in 2018/19	10 - 2
SECTION V	BSc(ActuarSc) Programmes on offer in 2018/19	10 - 2
SECTION V	BSc(ActuarSc) Programmes on offer in 2018/19	10 - 2
	BSc(ActuarSc) Programmes on offer in 2018/19 Course Descriptions of BSc(ActuarSc) and Language Courses	10 - 2 24 - 5
ECTION VI		24 - 5
ECTION VI English	Course Descriptions of BSc(ActuarSc) and Language Courses	24 - 5
ECTION VI English Chinese Mathematic	Course Descriptions of BSc(ActuarSc) and Language Courses	24 - 5 24 26
ECTION VI English Chinese Mathematic	Course Descriptions of BSc(ActuarSc) and Language Courses	24 - 5 24 26 27
ECTION VI English Chinese Mathematic Statistics 8	Course Descriptions of BSc(ActuarSc) and Language Courses	24 - 5 24 26 27 29
ECTION VI English Chinese Mathematic Statistics 8	Course Descriptions of BSc(ActuarSc) and Language Courses Actuarial Science	24 - 5 24 26 27 29
ECTION VI English Chinese Mathematic Statistics &	Course Descriptions of BSc(ActuarSc) and Language Courses BSC(ActuarSc) and Language Courses Actuarial Science Degree Regulations	24 - 5 24 26 27 29
English Chinese Mathematic Statistics &	Course Descriptions of BSc(ActuarSc) and Language Courses Ss Actuarial Science Degree Regulations c) Degree Regulations	24 - 5 24 26 27 29

SECTION I Objectives and Learning Outcomes

: Bachelor of Science in Actuarial Science Degree

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:

- understand and apply various analytic and quantitative methods to define and solve problems (1) 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)
- understand and identify the nature of insurance, finance and investment risks (2) (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- develop analytical skills to evaluate and measure various kinds of risk, and appraise the related (3)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)
- communicate and collaborate with people effectively on issues related to actuarial science (5)(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)

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
- (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 160 hours 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 160 hours 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 BSc(ActuarSc) Courses* on offer in 2018/19 and 2019/20^

Course Code	Title	Credit	Pre-requisite	Availa	ible in	Semester offered in 2018 - 2019	Exam. held in 2018 - 2019	Quota	Course Coordinator		Major / (The Major/Minor that th		
				2018 - 2019	2019 - 2020	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 Ap	oplied English Studies												
CAES1000	Core University English	6	NIL	Y	Y	1, 2	Dec, May		Dr N Fong (1st sem); Dr P Wong (2nd sem), English				
CAES9820	Academic English for science students	6	NIL	Y	Y	1, 2	No exam		Ms E Law, English				
School of Ch	inese												
CSCI9001	Practical Chinese for science students	6	NIL	Y	Y	1, 2	Dec, May		Mr K W Wong, Chinese				
Department of	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		Dr J T Chan, Mathematics	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)			
MATH2822	Mathematical methods for actuarial science II	6	Pass in MATH1821. For BSc(ActuarSc) students only.	Y	Y	2	May		Dr J T Chan, Mathematics	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)			
Department	of Statistics & 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	Y	Y	2	May		Prof S M S Lee, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)	Minor in Actuarial Studies (2018,2017,2016,2015, 2014,2013,2012)		
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.	Y	Y	2	May		Prof K C Yuen, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)			
STAT3602	Statistical inference	6	Pass in STAT2602 or STAT3902	Y	Y	1	Dec		Prof S M S Lee, Statistics & Actuarial Science		BSc in Actuarial Science (2017,2016,2015,2014, 2013,2012); Major in Statistics (2018,2017,2016,2015, 2014,2013,2012); Minor in Statistics (2018,2017,2016,2015, 2014,2013,2012)		
STAT3612	Data mining	6	Pass in STAT2602 or (STAT1603 and any University level 2 course) or STAT3902; and Pass in STAT3600 or STAT3907, or already enrolled in these courses; and	Y	Y	2	No exam		Dr A J Zhang, Statistics & Actuarial Science	Major in Decision Analytics (2018,2017,2016,2015, 2014,2013,2012)	BSc in Actuarial Science (2017,2016,2015,2014, 2013,2012); Major in Risk Management		

^{*} 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 2019-2020 is subject to change.

			Not for students who have passed in STAT4904, or already enrolled in this course; and Not for BSc(Actuarial Science) students. BSc(Actuarial Science) students are advised to take STAT4904 Statistical learning for risk modelling instead.								(2018,2017,2016,2015, 2014,2013,2012); Major in Statistics (2018,2017,2016,2015, 2014,2013,2012); Minor in Risk Management (2018,2017,2016,2015, 2014,2013,2012); Minor in Statistics (2018,2017,2016,2015, 2014,2013,2012),	
STAT3616	Advanced SAS programming	6	Pass in STAT2601 or STAT2901 (Students are strongly recommended to take STAT2603 prior to taking this course.)	N	N			50	TBC, Statistics & Actuarial Science		BSc in Actuarial Science (2017,2016,2015,2014, 2013,2012); Major in Decision Analytics (2017,2016,2015,2014, 2013,2012); Major in Statistics (2017,2016,2015,2014, 2013,2012); Minor in Statistics (2017,2016,2015,2014, 2013,2012)	
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)	Y	Y	1	Dec		Prof K C Yuen, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)	Minor in Actuarial Studies (2018,2017,2016,2015, 2014,2013,2012)	
STAT3902	Statistical models	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.	Y	Y	1	Dec		Dr J F Xu, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)		
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		Prof J J F Yao, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)		
STAT3904	Corporate finance for actuarial science	6	[(Pass in ACCT1101 and STAT2902) or (Pass in STAT3610 and STAT3615)]; and Not for students who have passed in FINA1310, or have already enrolled in this course.	Y	Y	2	May		Dr D Lee, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)	Minor in Actuarial Studies (2018,2017,2016,2015, 2014,2013,2012)	
STAT3905	Introduction to financial derivatives	6	Pass in STAT2902; and Not for students who have passed in STAT3618, or have already enrolled in this course; and Not for students who have passed in FINA2322, or have already enrolled in this course; and For BSc(Actuarial Science) students only.	Y	Y	1	Dec		Dr K C Cheung, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)		
STAT3906	Risk theory I	6	Pass in STAT3903, or already enrolled in this course; or Pass in MATH3603 or STAT3603	N	Y				Dr D Lee, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)	Minor in Actuarial Studies (2018,2017,2016,2015, 2014,2013,2012)	

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.	Y	Y	2	May	 Dr G Li, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)		
STAT3908	Credibility theory and loss distributions	6	Pass in STAT2602 or STAT3902 or STAT3906	Y	Y	1, 2	Dec, May	 Dr A G Benchimol, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)	Minor in Actuarial Studies (2018,2017,2016,2015, 2014,2013,2012)	
STAT3909	Life contingencies II	6	Pass in STAT3901, or already enrolled in this course; and For BSc(Actuarial Science) students only.	Y	Y	2	May	 Dr D Lee, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)		
STAT3910	Financial economics I	6	Pass in STAT2602 or STAT3902; and Not for students who have passed in STAT3618, or have already enrolled in this course; and Not for students who have passed in FINA2322, or have already enrolled in this course.	Y	Y	1	Dec	 Prof H L Yang, Statistics & Actuarial Science	BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)	Minor in Actuarial Studies (2018,2017,2016,2015, 2014,2013,2012)	
STAT3911	Financial economics II	6	Pass in MATH3603 or STAT3603 or STAT3903 or STAT3910	Y	Y	2	May	 Prof H L Yang, Statistics & Actuarial Science	BSc in Actuarial Science (2017,2016,2015,2014, 2013,2012)	BSc in Actuarial Science (2018); Major in Risk Management (2018,2017,2016,2015, 2014,2013,2012); Minor in Actuarial Studies (2018,2017,2016,2015, 2014,2013,2012)	
STAT3951	Further topics in contingencies	6	Pass in STAT3909; and Pass in STAT3910, or already enrolled in this course; and For BSc(Actuarial Science) students only.	Y	Y	1	Dec	 Dr D Lee, Statistics & Actuarial Science		BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)	
STAT3952	Investment and asset management	6	Pass in STAT3901; and Not for students who have passed in FINA2320, or have already enrolled in this course; and For BSc(Actuarial Science) students only.	N	N			 TBC, Statistics & Actuarial Science		BSc in Actuarial Science (2012)	
STAT3953	Fundamentals of actuarial practice	6	Pass in STAT3909; and For BSc(Actuarial Science) students only.	Y	Y	1	No exam	 Dr A G Benchimol, Statistics & Actuarial Science		BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)	
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.	N	N			 TBC, Statistics & Actuarial Science		BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)	
STAT3955	Survival analysis	6	Pass in STAT3902, or already enrolled in this course; or Pass in STAT3600 or STAT3901	Y	Y	2	May	 Dr J F Xu, Statistics & Actuarial Science		BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012); Major in Statistics	

STAT3956	Pension funds and pension mathematics	6	Pass in STAT3909; and For BSc(Actuarial Science) students	Y	Y	1	Dec		Prof G Ma, Statistics & Actuarial Science		(2018,2017,2016,2015, 2014,2013,2012); Minor in Statistics (2018,2017,2016,2015, 2014,2013,2012) BSc in Actuarial Science	
STAT4602	Multivariate data analysis	6	only. Pass in STAT3600 or STAT3907	Y	Y	2	May	50	Prof T W K Fung, Statistics & Actuarial Science	Major in Statistics (2018,2017,2016,2015, 2014,2013,2012)	(2018,2017,2016,2015, 2014,2013,2012) BSc in Actuarial Science (2017,2016,2015,2014, 2013,2012); Major in Decision Analytics (2018,2017,2016,2015, 2014,2013,2012); Minor in Statistics (2018,2017,2016,2015, 2014,2013,2012)	
STAT4607	Credit risk analysis	6	Pass in STAT3618 or STAT3905 or STAT3910 or (FINA2322 and any University level 3 course)	Y	Y	1	Dec		Dr K P Wat, Statistics & Actuarial Science		BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012); Major in Risk Management (2018,2017,2016,2015, 2014,2013,2012); Minor in Risk Management (2018,2017,2016,2015, 2014,2013,2012)	
STAT4608	Market risk analysis	6	Pass in STAT3907 and STAT3910; or Pass in STAT4601 and (FINA2320 or STAT3609)	Y	Y	2	May		Dr K Zhu, Statistics & Actuarial Science		BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012); Major in Risk Management (2018,2017,2016,2015, 2014,2013,2012); Minor in Risk Management (2018,2017,2016,2015, 2014,2013,2012)	
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.	Y	Y	1, 2	No exam	50	Prof G Yin, Statistics & Actuarial Science			BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)
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	Y	Y	1, 2	No exam		Dr A G Benchimol, Statistics & Actuarial Science			BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)

			take this capstone course is their year 3 study.									
STAT4798	Statistics and actuarial science project	6	Pass in at least 24 credits of advanced level disciplinary correlelective courses in BSc(Actuarial Science) programme including STAT3902 and STAT3907; and Pass or already enrolled in at least one of the following courses: STAT3616, STAT3911, STAT4602; 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.	Y	Y	1, 2	No exam	50	Prof S M S Lee, Statistics & Actuarial Science			BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)
STAT4901	Risk theory II	6	Pass in STAT3906	N	N				TBC, Statistics & Actuarial Science		BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)	
STAT4902	Selected topics in actuarial science	6	Pass in STAT3906	N	N				TBC, Statistics & Actuarial Science		BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012)	
STAT4903	Actuarial techniques for general insurance	6	Pass in STAT3906	Y	Y	1	Dec		Dr A G Benchimol, Statistics & Actuarial Science		BSc in Actuarial Science (2018,2017,2016,2015, 2014,2013,2012); Minor in Actuarial Studies (2018,2017,2016,2015, 2014,2013,2012)	
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.	Y	Y	2	May		Dr C Wang, Statistics & Actuarial Science	BSc in Actuarial Science (2018)	BSc in Actuarial Science (2017,2016,2015,2014, 2013,2012)	
STAT7609	Research methods in statistics	6	Pass in STAT3600 or STAT3907	Y	Y	1	Dec		Prof J J F Yao, Statistics & Actuarial Science			
STAT7610	Advanced probability	6	Pass in STAT3603 or STAT3903	Y	Y	1	Dec		Prof H L Yang, Statistics & Actuarial Science			
STAT7611	Computational statistics	6	Pass in STAT3600 or STAT3907	Y	Υ	1	Dec		Prof G Yin, Statistics & Actuarial Science			
STAT7614	Advanced statistical modelling	6	Pass in STAT3600 or STAT3907	Y	Y	1, 2	Dec, May		Dr Y K Chung, Statistics & Actuarial Science			
STAT7615	Advanced quantitative risk management and finance	6	Pass in STAT4608	Y	Y	2	May		Dr Z Zhang, Statistics & Actuarial Science			

SECTION IV Equivalency of HKDSE and other qualifications

Table of Equivalence between HKDSE and Other Qualifications

HADGE	Con de	Equivalent Qualification to HKDSE							
HKDSE	Grade	IB	GCE	SATII	AP	Gao Kao (高考)			
Biology	3 or above	Biology (SL/HL)	Biology (AL)	Biology	Biology				
Chemistry	3 or above	Chemistry (SL/HL)	Chemistry (AL)	Chemistry	Chemistry				
Physics	3 or above	Physics (SL/HL)	Physics (AL)	Physics	Physics B or C	Equivalent to			
Mathematics	2 or above	Mathematics (SL)/Mathematical Studies (SL)	Mathematics (AL)	Mathematics Level 1 or 2		fulfillment of all HKDSE requirements			
Mathematics + (M1 or M2)	2 or above	Mathematics (HL)/Mathematical Studies (HL)	Pure Mathematics (AL) Further Mathematics (AL)		Calculus AB or BC				

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.

For other non-science students admitted through non-JUPAS scheme, they are still required to obtain the written approval from the Course Selection Adviser of the course offering department/school 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.

Offered to students 2018

admitted to Year 1 in

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) [previous title: Life contingencies (6)]

STAT3902 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)

STAT3906 Risk theory I (6) STAT3908 Credibility theory and loss distributions (6)

STAT3909 Life contingencies II (6) [previous title: Advanced life contingencies

STAT3910 Financial economics I (6)

STAT4904 Statistical learning for risk modelling (6)

4. Year IV Courses

STAT3954

Disciplinary Electives (12 credits)

At least 12 credits selected from the following courses:

STAT3911 Financial economics II (6)
STAT3951 Further topics in contingencies (6)
STAT3953 Fundamentals of actuarial practice (6)

[previous title: Advanced contingencies (6)]

STAT3955 Survival analysis (6)

STAT3956 Pension funds and pension mathematics (6)

Current topics in actuarial science (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)

Actuarial science internship (6) STAT4767

STAT4798 Statistics and actuarial science project (6)

Notes:

1. Students are expected to be in full-time status for eight academic semesters (in additional 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.

Offered to students 2017

admitted to Year 1 in

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 (138 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) [previous title: Life contingencies (6)]

STAT3902 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)

STAT3906 Risk theory I (6) STAT3908 Credibility theory and loss distributions (6)

STAT3909 Life contingencies II (6) [previous title: Advanced life contingencies

STAT3910 Financial economics I (6) STAT3911 Financial economics II (6)

4. Year IV Courses

Disciplinary Electives (18 credits)

At least 18 credits from List A and List B, with at least 12 credits from List A:

List A
STAT3951 Further topics in contingencies (6)
STAT3954 Current topics in actuarial science (6)

STAT3955 Survival analysis (6) STAT3956 Pension funds and pension mathematics (6)

STAT3956 Pension funds and pensor STAT4607 Credit risk analysis (6)
STAT4608 Market risk analysis (6)
STAT4901 Risk theory II (6)

STAT4903 Actuarial techniques for general insurance (6)

[previous title: Advanced contingencies (6)]

STAT4904	Statistical learning for risk modelling (6)							
List B								
STAT3602	Statistical inference (6)							
STAT3612	Data mining (6)							
STAT3616	Advanced SAS programming (6)							
STAT3953	Fundamentals of actuarial practice (6)							
STAT4602	Multivariate data analysis (6)							
STAT4902	Selected topics in actuarial science (6)							
5. Capstone Requir	rement (6 credits)							
At least 6 credits	At least 6 credits selected from the following courses:							
STAT4711	Capstone experience for actuarial science undergraduates (6)							
STAT4767	Actuarial science internship (6)							

Statistics and actuarial science project (6)

Notes:

STAT4798

- 1. Students are expected to be in full-time status for eight academic semesters (in additional 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

Offered to students 2016

admitted to Year 1 in

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 (138 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) [previous title: Life contingencies (6)]

STAT3902 Statistical models (6) STAT3903 Stochastic models (6)

STAT3904 Corporate finance for actuarial science (6)
STAT3905 Introduction to financial derivatives (6)

STAT3906 Risk theory I (6)

3. Year III Courses

Disciplinary Core Courses (30 credits)

STAT3907 Linear models and forecasting (6)
STAT3908 Credibility theory and loss distributions (6)

STAT3909 Life contingencies II (6) [previous title: Advanced life contingencies

[previous title: Advanced contingencies (6)]

STAT3910 Financial economics I (6) STAT3911 Financial economics II (6)

4. Year IV Courses

Disciplinary Electives (18 credits)

At least 18 credits from List A and List B, with at least 12 credits from List A:

List A
STAT3951 Further topics in contingencies (6)

STAT3954 Current topics in actuarial science (6)

STAT3955 Survival analysis (6)

STAT3956 Pension funds and pension mathematics (6)

STAT4607 Credit risk analysis (6) STAT4608 Market risk analysis (6) STAT4901 Risk theory II (6)

STAT4903 Actuarial techniques for general insurance (6)

STAT4904 List B	Statistical learning for risk modelling (6)
STAT3602	Statistical inference (6)
STAT3612	Data mining (6)
STAT3616	Advanced SAS programming (6)
STAT3953	Fundamentals of actuarial practice (6)
STAT4602	Multivariate data analysis (6)
STAT4902	Selected topics in actuarial science (6)
5. Capstone Require	ement (6 credits)
At least 6 credits s	elected 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 additional 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

Offered to students 2015

admitted to Year 1 in

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)
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- 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 (138 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 2. Year II Courses

Disciplinary Core Courses (42 credits)

COMP1117 Computer programming (6)
STAT3901 Life contingencies I (6) [previous title: Life contingencies (6)]

STAT3902 Statistical models (6) STAT3903 Stochastic models (6)

STAT3904 Corporate finance for actuarial science (6)
STAT3905 Introduction to financial derivatives (6)

Financial mathematics (6)

STAT3906 Risk theory I (6)

3. Year III Courses

Disciplinary Core Courses (30 credits)

STAT3907 Linear models and forecasting (6) STAT3908 Credibility theory and loss distributions (6)

STAT3909 Life contingencies II (6) [previous title: Advanced life contingencies

[previous title: Advanced contingencies (6)]

STAT3910 Financial economics I (6) STAT3911 Financial economics II (6)

4. Year IV Courses

Disciplinary Electives (18 credits)

At least 18 credits from List A and List B, with at least 12 credits from List A:

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STAT3951 Further topics in contingencies (6)
STAT3954 Current topics in actuarial science (6)

STAT3955 Survival analysis (6)

STAT3956 Pension funds and pension mathematics (6)

STAT4607 Credit risk analysis (6) STAT4608 Market risk analysis (6) STAT4901 Risk theory II (6)

STAT4903 Actuarial techniques for general insurance (6)

	STAT4904 List B	Statistical learning for risk modelling (6)					
Ш	STAT3602	Statistical inference (6)					
Ш	STAT3612	Data mining (6)					
Ш	STAT3616	Advanced SAS programming (6)					
Ш	STAT3953	Fundamentals of actuarial practice (6)					
Ш	STAT4602	Multivariate data analysis (6)					
Ш	STAT4902	Selected topics in actuarial science (6)					
Ш	5. Capstone Requirement (6 credits)						
Ш	At least 6 credits	s selected from the following courses:					
Ш	STAT4711	Capstone experience for actuarial science undergraduates (6)					
Ш	STAT4767	Actuarial science internship (6)					

Statistics and actuarial science project (6)

Notes:

STAT4798

- 1. Students are expected to be in full-time status for eight academic semesters (in additional to their 6-month or longer full-time internships) in order to fulfill the degree requirements.
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Remarks

Offered to students 2014

admitted to Year 1 in

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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:

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Impermissible Combinations:

STAT3956

STAT4607 STAT4608

STAT4901

STAT4903

Minor in Actuarial Studies Required courses (138 credits) 1. Year I Courses **Disciplinary Core Courses (42 credits)** ACCT1101 Introduction to financial accounting (6) Introductory microeconomics (6) ECON1210 ECON1220 Introductory macroeconomics (6) Mathematical methods for actuarial science I (6) MATH1821 MATH2822 Mathematical methods for actuarial science II (6) Probability and statistics: foundations of actuarial science (6) STAT2901 Financial mathematics (6) STAT2902 2. Year II Courses **Disciplinary Core Courses (42 credits)** COMP1117 Computer programming (6) Life contingencies I (6) STAT3901 [previous title: Life contingencies (6)] STAT3902 Statistical models (6) STAT3903 Stochastic models (6) Corporate finance for actuarial science (6) STAT3904 STAT3905 Introduction to financial derivatives (6) Risk theory I (6) STAT3906 3. Year III Courses **Disciplinary Core Courses (30 credits)** Linear models and forecasting (6) STAT3907 Credibility theory and loss distributions (6) STAT3908 Life contingencies II (6) [previous title: Advanced life contingencies STAT3909 STAT3910 Financial economics I (6) Financial economics II (6) STAT3911 4. Year IV Courses **Disciplinary Electives (18 credits)** At least 18 credits from List A and List B, with at least 12 credits from List A: List A STAT3951 Further topics in contingencies (6) [previous title: Advanced contingencies (6)] STAT3954 Current topics in actuarial science (6) STAT3955 Survival analysis (6)

Pension funds and pension mathematics (6)

Actuarial techniques for general insurance (6)

Credit risk analysis (6)

Market risk analysis (6)

Risk theory II (6)

STAT4904	Statistical learning for risk modelling (6)					
List B						
STAT3602	Statistical inference (6)					
STAT3612	Data mining (6)					
STAT3616	Advanced SAS programming (6)					
STAT3953	Fundamentals of actuarial practice (6)					
STAT4602	Multivariate data analysis (6)					
STAT4902	Selected topics in actuarial science (6)					
5. Capstone Requirement (6 credits)						
At least 6 credits selected from the following courses:						

Capstone experience for actuarial science undergraduates (6) STAT4711

STAT4767 Actuarial science internship (6)

Statistics and actuarial science project (6) STAT4798

Notes:

- 1. Students are expected to be in full-time status for eight academic semesters (in additional to their 6-month or longer full-time internships) in order to fulfill the degree requirements.
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Offered to students 2013

admitted to Year 1 in

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- 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

STAT3955

STAT3956

STAT4607 STAT4608

STAT4901

STAT4903

Survival analysis (6)

Credit risk analysis (6)

Market risk analysis (6)

Risk theory II (6)

Pension funds and pension mathematics (6)

Actuarial techniques for general insurance (6)

Required courses (138 credits) 1. Year I Courses **Disciplinary Core Courses (42 credits)** ACCT1101 Introduction to financial accounting (6) Introductory microeconomics (6) ECON1210 ECON1220 Introductory macroeconomics (6) Mathematical methods for actuarial science I (6) MATH1821 MATH2822 Mathematical methods for actuarial science II (6) Probability and statistics: foundations of actuarial science (6) STAT2901 Financial mathematics (6) STAT2902 2. Year II Courses **Disciplinary Core Courses (42 credits)** COMP1117 Computer programming (6) Life contingencies I (6) STAT3901 [previous title: Life contingencies (6)] STAT3902 Statistical models (6) STAT3903 Stochastic models (6) Corporate finance for actuarial science (6) STAT3904 STAT3905 Introduction to financial derivatives (6) Risk theory I (6) STAT3906 3. Year III Courses **Disciplinary Core Courses (30 credits)** Linear models and forecasting (6) STAT3907 Credibility theory and loss distributions (6) STAT3908 Life contingencies II (6) [previous title: Advanced life contingencies STAT3909 STAT3910 Financial economics I (6) Financial economics II (6) STAT3911 4. Year IV Courses **Disciplinary Electives (18 credits)** At least 18 credits from List A and List B, with at least 12 credits from List A: List A STAT3951 Further topics in contingencies (6) [previous title: Advanced contingencies (6)] STAT3954 Current topics in actuarial science (6)

STAT4904 Statistical learning for risk modelling (6) List B STAT3602 Statistical inference (6) STAT3612 Data mining (6) STAT3616 Advanced SAS programming (6) STAT3953 Fundamentals of actuarial practice (6) STAT4602 Multivariate data analysis (6) Selected topics in actuarial science (6) STAT4902 5. Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:

Capstone experience for actuarial science undergraduates (6) STAT4711

STAT4767 Actuarial science internship (6)

Statistics and actuarial science project (6) STAT4798

Notes:

- 1. Students are expected to be in full-time status for eight academic semesters (in additional 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.
- 3. The course title of ECON1210 Introductory microeconomics in 2013-14 or before is Introduction to economics I.
- 4. The course title of ECON1220 Introductory macroeconomics in 2013-14 or before is Introduction to economics II.

Offered to students 2012

admitted to Year 1 in

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.

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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)
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Impermissible Combinations:

Minor in Actuarial Studies

STAT3955

STAT3956

STAT4607 STAT4608

STAT4901

STAT4903

Survival analysis (6)

Credit risk analysis (6)

Market risk analysis (6)

Risk theory II (6)

Pension funds and pension mathematics (6)

Actuarial techniques for general insurance (6)

Required courses (138 credits) 1. Year I Courses **Disciplinary Core Courses (42 credits)** ACCT1101 Introduction to financial accounting (6) Introductory microeconomics (6) ECON1210 ECON1220 Introductory macroeconomics (6) Mathematical methods for actuarial science I (6) MATH1821 MATH2822 Mathematical methods for actuarial science II (6) Probability and statistics: foundations of actuarial science (6) STAT2901 Financial mathematics (6) STAT2902 2. Year II Courses **Disciplinary Core Courses (42 credits)** COMP1117 Computer programming (6) Life contingencies I (6) STAT3901 [previous title: Life contingencies (6)] STAT3902 Statistical models (6) STAT3903 Stochastic models (6) STAT3904 Corporate finance for actuarial science (6) Introduction to financial derivatives (6) STAT3905 Risk theory I (6) STAT3906 3. Year III Courses **Disciplinary Core Courses (30 credits)** Linear models and forecasting (6) STAT3907 Credibility theory and loss distributions (6) STAT3908 Life contingencies II (6) [previous title: Advanced life contingencies STAT3909 Financial economics I (6) STAT3910 Financial economics II (6) STAT3911 4. Year IV Courses **Disciplinary Electives (18 credits)** At least 18 credits from List A and List B, with at least 12 credits from List A: List A STAT3951 Further topics in contingencies (6) [previous title: Advanced contingencies (6)] STAT3954 Current topics in actuarial science (6)

Notes:

- 1. Students are expected to be in full-time status for eight academic semesters (in additional 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.
- 3. The course title of ECON1210 Introductory microeconomics in 2013-14 or before is Introduction to economics I.
- 4. The course title of ECON1220 Introductory macroeconomics in 2013-14 or before is Introduction to economics II.

Remarks

SECTION VI Course Descriptions

CAES1000	Core Ur	iversity English (6	credits)	Academic Yea	r 2018		
Offering Department	English			Quota			
Course Co-ordinator			g (2nd sem), English <i>(fongsn@l</i>	hku.hk; pmtw2@hku.hk)			
Teachers Involved	,	ig,Centre for Applied E ng,Centre for Applied E	,				
Course Objectives							
Course Contents & Topics	proficience Common written act for and use the Mood skills and	y in the university conf Core Curriculum. The ademic texts, express se academic sources le platform on acader avoiding plagiarism v to participate more eff	text. CUE focuses on developin ese include the language skills academic ideas and concepts of information in their writing almic speaking, academic gramn will be offered to students to si	e first-year students' academic g students' academic English langs needed to understand and proclearly and in a well-structured new peaking. Four online-learning nar, academic vocabulary, citation upport their English learning. This risty studies in English, thereby	guage skills for the duce spoken an nanner and searce modules throug n and referencin is course will hel		
Course Learning			s course students should be ab	le to:			
Outcomes	CLO 1 id de CLO 2 fo CLO 3 ar	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 a 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 a speaking					
	CLO 4 de	emonstrate control of g	grammatical accuracy and lexica	al appropriacy in academic comm	unication		
Pre-requisites (and Co-requisites and Impermissible combinations)	NIL						
Offer in 2018 - 2019	Y 1st	sem 2nd sem Offe	er in 2019 - 2020 : Y	Examination	Dec May		
Grade Descriptors	A			e spoken and written academic texts w			
	В	texts. Written language c comprehensible and fluer Good to very good result with only minor errors. St argue for a detailed posi speaking. They cite and r with ease, although they	contains very few, if any, systematic e tt. 1. Students are able to produce spoker udents can almost always clearly and c tion. Students almost always use appr reference correctly with only a few non- may miss some implied meanings and of	to fully comprehend and critically interprrors in grammar and vocabulary. Spoke and written academic texts which are a concisely explain academic concepts and opriate academic sources to support the systematic errors. Students can compreh opinions. Written language is mostly accu	en language is alway ppropriately structure almost always critical ir ideas in writing an end and interpret tex rate but contains a fe		
	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	may be some evidence of for a position. There is some students often use source are many systematic error of citation and referencing the main ideas and writer	of this ability. Students are often unable some evidence of an ability to explair es which are nonacademic and/or not ars in citation and referencing however the g. Students often have difficulty compre is views and attitudes. Written language	oduced by students are often inappropriate to clearly and concisely explain academ a cademic concepts but not to critically appropriate to support their ideas in writinhere is evidence of an understanding of stehending and interpreting texts, sometime is soften inaccurate containing errors in compliance comprehensially and fluent a	ic concepts and argu argue for a position g and speaking. Ther ome of the convention as failing to understan		
	Fail	placed on the listener. Unsatisfactory result. Pro-		to successfully carry out spoken and writte	nd strain is frequently en assessments. Text		
	Fail	placed on the listener. Unsatisfactory result. Pro- are unstructured and un-	ductive skills are too limited to be able to clear. Students are unable to follow a	<u> </u>	nd strain is frequently en assessments. Text errors in almost ever		
Course Type		placed on the listener. Unsatisfactory result. Pro- are unstructured and un-	ductive skills are too limited to be able to clear. Students are unable to follow a	to successfully carry out spoken and written interpret texts. There are language of	nd strain is frequentlen assessments. Texterrors in almost ever		
Course Teaching		placed on the listener. Unsatisfactory result. Pro are unstructured and unsentence. Spoken langua ased course	ductive skills are too limited to be able to clear. Students are unable to follow a	to successfully carry out spoken and written interpret texts. There are language of	nd strain is frequentlen assessments. Texterrors in almost ever		
Course Teaching	Lecture-b	placed on the listener. Unsatisfactory result. Pro are unstructured and unsentence. Spoken langua ased course	ductive skills are too limited to be able to clear. Students are unable to follow a tige is often incomprehensible. Assessm	to successfully carry out spoken and written interpret texts. There are language of	nd strain is frequentlen assessments. Texterrors in almost ever tain plagiarism.		
Course Teaching	Lecture-b Activitie	placed on the listener. Unsatisfactory result. Pro are unstructured and unsentence. Spoken langua ased course	ductive skills are too limited to be able to clear. Students are unable to follow a tige is often incomprehensible. Assessm	to successfully carry out spoken and written interpret texts. There are language of	nd strain is frequently en assessments. Texerrors in almost ever tain plagiarism. No. of Hours		
Course Teaching	Lecture-b Activities Lectures Tutorials	placed on the listener. Unsatisfactory result. Pro are unstructured and unsentence. Spoken langua ased course	ductive skills are too limited to be able to clear. Students are unable to follow a tige is often incomprehensible. Assessm	to successfully carry out spoken and written interpret texts. There are language of	nd strain is frequent en assessments. Tex errors in almost ever tain plagiarism. No. of Hours 30		
Course Type Course Teaching & Learning Activities Assessment Methods and Weighting	Lecture-b Activities Lectures Tutorials	placed on the listener. Unsatisfactory result. Pro are unstructured and unsentence. Spoken langua ased course / Self study	ductive skills are too limited to be able to clear. Students are unable to follow a tige is often incomprehensible. Assessm	to successfully carry out spoken and written interpret texts. There are language of	nd strain is frequentlen assessments. Texerrors in almost evertain plagiarism. No. of Hours 30 6		
Course Teaching & Learning Activities Assessment Methods	Lecture-b Activitie Lectures Tutorials Reading	placed on the listener. Unsatisfactory result. Pro are unstructured and unsentence. Spoken langua ased course / Self study	ductive skills are too limited to be able to clear. Students are unable to follow a ge is often incomprehensible. Assessm Details	to successfully carry out spoken and writtind interpret texts. There are language ents may not have been attempted or cor	en assessments. Texerrors in almost evertain plagiarism. No. of Hours 30 6 84 Assessment Methods		

CAES9820		ic English for so	cience students (6 credits)	Academic Ye	ar 2018
Offering Department	English	F . P . L . / W		Quota	
Course Co-ordinator		, English (ellielaw@	,		
Teachers Involved		v,Centre for Applied			
Course Objectives	Faculty. T their studi within the	This course will help es. Students will lead ir division, with othe students to identify the	Discipline course will be offered to satudents develop the necessary skills arn to better communicate and spontater scientists as well as to a larger autheir own language needs and development.	s to use both written and sp neously discuss general and dience. Particular emphasi	oken English withid scientific concept s will be placed or
Course Contents		vered in the course v	will be:		
& Topics	- Finding, - Compilin - Contrast - Writing forganiz grammar; - Critically	evaluating and using an academic biblicing academic and proor a specific audiencing and articulating and examine their ow	g appropriate academic source materi	e, levels of formality; and format including appropriate how that relates to their	·
Course Learning		•	his course, students should be able to		
Outcomes			e disciplinary sources related to a spe		
	kn	nowledge	and spoken) appropriate for a cross-c		on their disciplinar
		entify their own lang	uage learning needs and implement a	plan to meet those needs	
Pre-requisites (and Co-requisites and Impermissible combinations)	NIL				
Offer in 2018 - 2019	Y 1st	sem 2nd sem O	ffer in 2019 - 2020 : Y	Examination	No Exam
Grade Descriptors (A+ to F)	A	using original language	stently demonstrates ability to summarize salie a. Text uses sources appropriately and demon pristics. Language learning needs are clearly ic	strates accurate and appropriate	grammatical, lexical and
	С	Good to very good res Text mostly uses so organizational character although there is some Satisfactory to reasonal	sult. Usually demonstrates ability to summarize urces appropriately and demonstrates most pristics. Language learning needs are stated w misalignment between goals and self-study cor ably good result. Demonstrates some ability to	ly accurate and appropriate gra with some reference to evidence of mpleted. It is summarize salient points using r	ammatical, lexical and planning and reflection mostly original language
	_	grammatical and lexical evidence of planning an	racies are present. Text uses some sources al characteristics with some organizational flaw not reflection but goals and self-study are misalip	vs. Language learning needs are s gned.	stated with some limite
	D	original language. Tex and organizational flav	ult. Demonstrates a limited ability to summarize t uses sources inappropriately and demonstra ws. There is a minimal statement of language ween goals and self-study.	tes grammatical inaccuracy, inapp	propriate lexical choice
	Fail	Unsatisfactory result. I reliable sources. Text	Does not demonstrate ability to summarize sa uses no sources and demonstrates serious gringful attempt to identify language learning nee	rammatical, lexical and/or organiz	
Course Type	Lecture-ba	ased course			
Course Teaching	Activities	8	Details		No. of Hours
& Learning Activities	Tutorials		seminars		36
	Reading /	/ Self study			120
	Assessm	ent	independent learning work		84
			Deteile	Weighting in final	Assessment
	Methods		Details	course grade (%)	Methods
	Methods Assignme		independent learning work		
				course grade (%)	Methods
Assessment Methods and Weighting	Assignme		independent learning work	course grade (%)	Methods
and Weighting Required/recommended reading and	Assignme Essay Test	ents	independent learning work	course grade (%) 20 55 25	Methods
	Assignme Essay Test Course m	ents	independent learning work other genres of writing	course grade (%) 20 55 25	Methods
and Weighting Required/recommended reading and online materials	Assignme Essay Test Course m	ents aterials to be provide	independent learning work other genres of writing	course grade (%) 20 55 25 ite.	Methods to CLO Mappin

CSCI9001	Practica	I Chinese for scier	nce students (6 credits)	Academic Yea	r 2018	
Offering Department	Chinese			Quota		
Course Co-ordinator	Mr K W W	long, Chinese (kwwong	gb@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	good-new	s and goodwill messa documents: emails;	ern Chinese - The Chinese writing sys ages, bad-news messages, and pers presentations - Styles and rhetoric	suasive messages - Tec	hniques of writing	
Course Learning	On succes	ssful completion of this	course, students should be able to:			
Outcomes			petency in modern Chinese and write			
			s and stylistics, as well as practical wr			
			mmunication, initiate discussions and			
	CLO 4 ap	oply their disciplinary ki	nowledge and their Chinese writing ski	ills and professional prese	ntation techniques	
	ar	nalytically, critically and	creatively in different social or profess	sional discourses		
Pre-requisites (and Co-requisites and Impermissible combinations)	NIL					
Offer in 2018 - 2019	Y 1st	sem 2nd sem Offe	r in 2019 - 2020 : Y	Examination	Dec May	
Grade Descriptors (A+ to F)	A B	apply, evaluate, and synth The student acquired the	perb ability to achieve the intended learning ou esize the language techniques for effective com ability to achieve the intended learning outcome he language techniques for effective communic	nmunication in all situations. es of the course at all levels of le		
	С	The student acquired add describe and apply the la	requate ability to achieve the intended learning inguage techniques for effective communication echniques for effective communication).	outcomes of the course at low		
	D	The student only has basic	c familiarity with the subject.			
	Fail	The student has very limit	ed familiarity with the subject.			
Course Type	Lecture-ba	ased course				
Course Teaching	Activities	3	Details		No. of Hours	
& Learning Activities	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	
	Assessm				16	
Assessment Methods and Weighting	Methods		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping	
	Assignme	ents	Self-access & online exercises (40%) and Tutorial disscussion (10%)	50		
	Examinat	ion		50		
Required/recommended reading and online materials	港:香港 錫韋复·1 務印書館 意:寫作篇	大學出版社。香港城市; 1996年。《中文應用寫 。汪麗炎·1998年。《 篇》。香港:香港城市;	。上海:上海大學出版社。李家樹、謝大學語文學部·2001年。《中文傳意: 作教程》。香港:三聯書店。李錦昌· 漢語寫作》。上海:上海大學出版社。 大學出版社。經文略、蘭德主編·2001 。《新編公文寫作學》。成都:四川人	基礎篇》。香港:香港城 2000年。《現代商業傳意 香港城市大學語文學部: 年。《企業文案撰寫模式	市大學出版社。周 大全》。香港:商 2001年。《中文傳 大全》。廣州:廣	

MATH1821	Mathema	atical methods	for actuarial science I (6 credit	S) Acau	ennic rea	ır 2018
Offering Department	Mathemati	ics		Quota	a	
Course Co-ordinator	Dr J T Cha	an, Mathematics (jt	chan@hku.hk)			
Teachers Involved	(Dr J T Ch	an,Mathematics)				
Course Objectives	backgroun single vari	d of calculus of or	two mathematics courses designed ne and several variables and an intro elementary matrix theory. It aims at sule 2 background.	duction to linear alge	ebra. The	course focuses or
Course Contents		s; graphs; inverse t				
& Topics	- Limits, cc - Mean val - Bisection - Higher or - Taylor ap - Improper - Numerica - Basic ma	ontinuity and differe lue theorem; implice method and Newt der derivatives, ma oproximation and e integrals, partial fr al integration, Trape	entiability. cit differentiation; L'Hopital's rule. con's method. axima and minima, graph sketching. rror estimation. ractions, integration by parts. ezoidal rule and Simpson's rule. orders 2 and 3) operations, determina	ants.		
Course Learning	On succes	sful completion of	this course, students should be able to	to:		
Outcomes	CLO 1 de	scribe properties o	f a function and an inverse function			
	CLO 2 ev	aluate various kind	Is of limits, and determine continuity a	and differentiability of	functions	
	cLO 4 ap	etch graphs of fund proximate integrals	s by numerical methods		e derivati	ves and integrals;
			ector operations, compute determinar			
			l second order ordinary differential eq			
Pre-requisites			Mathematics plus Module 1, or Level	4 of above in fixed	ıviati iei	matics plus Moduli
(and Co-requisites and Impermissible combinations)	2, or equiv Not for stu courses. For BSc(A	ralent; and udents who have put	assed MATH1013 or (MATH1851 an	d MATH1853), or ha	ve alread	ly enrolled in these
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019	2, or equiv Not for stu courses. For BSc(A Y 1st	ralent; and udents who have puctuarSc) students sem Offer in 201	assed MATH1013 or (MATH1851 an only. 9 - 2020 : Y	d MATH1853), or ha	ive alread	ly enrolled in these
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019	2, or equiv Not for stu courses. For BSc(A	alent; and dents who have p ctuarSc) students sem Offer in 201 Demonstrate an exce applications through cand being able to carr Demonstrate a good	assed MATH1013 or (MATH1851 and only. 9 - 2020 : Y Illent understanding of key concepts and ideas correctly analysing problems, clearly and elegaty out computations carefully and correctly, and understanding of key concepts and ideas by	d MATH1853), or ha Exam s by being able to identify antly presenting correct to did with some innovative apy being able to identify the didner of the control of the contr	ination the approprigical reasor	Dec iate theorems and their solving problems.
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	2, or equiv Not for stu courses. For BSc(A Y 1st	ctuarSc) students of sem Offer in 201 Demonstrate an exce applications through of applications through of theorems or their applications or their applications through of theorems or their applications an acceptance of the seminoration of the sem	assed MATH1013 or (MATH1851 an only. 9 - 2020 : Y illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some nilications and presentation or with some minor or phable understanding of key concepts and ide	d MATH1853), or ha Exam by being able to identify antly presenting correct lo the with some innovative apply being able to identify the trainor inadequacies in argumentational errors. Bas by being able to corresponding to the corresponding to the corresponding to the corresponding to the trainor inadequacies in argumentational errors. Bas by being able to corresponding to the corr	ination the approprigical reasor proaches to be appropriate uments, ide	Dec iate theorems and their ining and argumentation solving problems. ate theorems and their intifying the appropriate theorems
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	2, or equiv Not for stu courses. For BSc(A Y 1st	ctuarSc) students of the sem offer in 201 Demonstrate an exce applications through and being able to carr Demonstrate a good applications through theorems or their app Demonstrate an acce but with some inade	assed MATH1013 or (MATH1851 an only. 9 - 2020: Y Illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some inlications and presentation or with some minor optable understanding of key concepts and idea equacies in applying the theorems through	d MATH1853), or ha Exam by being able to identify antly presenting correct lo the with some innovative apply being able to identify the trainor inadequacies in argumentational errors. Bas by being able to corresponding to the corresponding to the corresponding to the corresponding to the trainor inadequacies in argumentational errors. Bas by being able to corresponding to the corr	ination the approprigical reasor proaches to be appropriate uments, ide	Dec iate theorems and their ining and argumentation solving problems. ate theorems and their intifying the appropriate theorems
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	2, or equiv Not for stu courses. For BSc(A Y 1st: A B	ralent; and idents who have p ctuarSc) students sem Offer in 201 Demonstrate an exce applications through and being able to carr Demonstrate a good applications through theorems or their app Demonstrate an acce but with some inade presentation or a num Demonstrate some un substantial inadequac with substantial comp	assed MATH1013 or (MATH1851 an only. 9 - 2020: Y Illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some in lications and presentation or with some minor or optable understanding of key concepts and ideas equacies in applying the theorems through other of minor computational errors. Inderstanding of key concepts and ideas by becies in applying the theorems through incorrect utational errors.	Exam by being able to identify antly presenting correct lo a with some innovative apply being able to identify the innor inadequacies in argromputational errors. Seas by being able to correctly analysing preing able to correctly analysing problems with a problem with a problems with a problem with a	ination the approprigical reasor proaches to the appropria uments, ide ectly identify oblems with tify appropri	Dec iate theorems and thei ining and argumentatior solving problems. ate theorems and thei intifying the appropriate appropriate theorems in poor argument and iate theorems, but with ment or presentation o
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F)	2, or equiv Not for stu courses. For BSc(A Y 1st: A B C	ctuarSc) students of sem Offer in 201 Demonstrate an exce applications through of and being able to carr Demonstrate a good applications through of theorems or their applications and being able to carr Demonstrate an accebut with some inade presentation or a num Demonstrate some usubstantial inadequace with substantial comp Demonstrate poor an being able to complete	assed MATH1013 or (MATH1851 an only. 9 - 2020 : Y illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some in lications and presentation or with some minor optable understanding of key concepts and idea equacies in applying the theorems through other of minor computational errors. Inderstanding of key concepts and ideas by be idea in applying the theorems through incorrect utational errors. In in applying the theorems through incorrect utational errors.	Exam by being able to identify antly presenting correct lo a with some innovative apply being able to identify the innor inadequacies in argromputational errors. Seas by being able to correctly analysing preing able to correctly analysing problems with analysing problems with a problem with a	ination the approprigical reasor proaches to the appropria uments, ide ectly identify oblems with tify appropri	Dec iate theorems and thei ining and argumentatior solving problems. ate theorems and thei intifying the appropriate appropriate theorems in poor argument and iate theorems, but with ment or presentation o
and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F)	2, or equiv Not for stucourses. For BSc(A Y 1st : A B C	ctuarSc) students of sem Offer in 201 Demonstrate an exce applications through of and being able to carr Demonstrate a good applications through of theorems or their app Demonstrate an accebut with some inade presentation or a num Demonstrate some unsubstantial inadequace with substantial comp Demonstrate poor an being able to complete ased course	assed MATH1013 or (MATH1851 an only. 9 - 2020 : Y illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some in lications and presentation or with some minor opptable understanding of key concepts and ideaquacies in applying the theorems through their of minor computational errors. Inderstanding of key concepts and ideas by being in applying the theorems through incorrect utational errors. In inadequate understanding by not being able the solution.	Exam by being able to identify antly presenting correct lo a with some innovative apply being able to identify the innor inadequacies in argromputational errors. Seas by being able to correctly analysing preing able to correctly analysing problems with analysing problems with a problem with a	ination the approprigical reasor proaches to the appropria uments, ide ectly identify oblems with tify appropri	Dec iate theorems and their ining and argumentation solving problems. ate theorems and their intifying the appropriate theorems in poor argument and iate theorems, but with ment or presentation of their applications, or no
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching	2, or equiv Not for stucourses. For BSc(A Y 1st: A B C D Fail Lecture-ba	ctuarSc) students of sem Offer in 201 Demonstrate an exce applications through of and being able to carr Demonstrate a good applications through of theorems or their app Demonstrate an accebut with some inade presentation or a num Demonstrate some unsubstantial inadequace with substantial comp Demonstrate poor an being able to complete ased course	assed MATH1013 or (MATH1851 an only. 9 - 2020 : Y illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some in lications and presentation or with some minor optable understanding of key concepts and idea equacies in applying the theorems through other of minor computational errors. Inderstanding of key concepts and ideas by be idea in applying the theorems through incorrect utational errors. In in applying the theorems through incorrect utational errors.	Exam by being able to identify antly presenting correct lo a with some innovative apply being able to identify the innor inadequacies in argromputational errors. Seas by being able to correctly analysing preing able to correctly analysing problems with analysing problems with a problem with a	ination the approprigical reasor proaches to the appropria uments, ide ectly identify oblems with tify appropri	Dec iate theorems and their ing and argumentation solving problems. I appropriate theorems and their intifying the appropriate repropriate theorems in poor argument and iate theorems, but with ment or presentation on their applications, or no No. of Hours
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching	2, or equiv Not for stucourses. For BSc(A Y 1st: A B C D Fail Lecture-ba Activities Lectures	ctuarSc) students of sem Offer in 201 Demonstrate an exce applications through of and being able to carr Demonstrate a good applications through of theorems or their app Demonstrate an accebut with some inade presentation or a num Demonstrate some unsubstantial inadequace with substantial comp Demonstrate poor an being able to complete ased course	assed MATH1013 or (MATH1851 an only. 9 - 2020 : Y illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some in lications and presentation or with some minor opptable understanding of key concepts and ideaquacies in applying the theorems through their of minor computational errors. Inderstanding of key concepts and ideas by being in applying the theorems through incorrect utational errors. In inadequate understanding by not being able the solution.	Exam by being able to identify antly presenting correct lo a with some innovative apply being able to identify the innor inadequacies in argromputational errors. Seas by being able to correctly analysing preing able to correctly analysing problems with analysing problems with a problem with a	ination the approprigical reasor proaches to the appropria uments, ide ectly identify oblems with tify appropri	Dec iate theorems and their ing and argumentation solving problems. appropriate theorems and their intifying the appropriate theorems in poor argument and iate theorems, but withment or presentation on heir applications, or no No. of Hours 36
and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching	2, or equiv Not for stucourses. For BSc(A Y 1st: A B C D Fail Lecture-ba Activities Tutorials	alent; and idents who have p ctuarSc) students sem. Offer in 201 Demonstrate an exce applications through and being able to carr Demonstrate a good applications through theorems or their app Demonstrate an acce but with some inade presentation or a num Demonstrate some unsubstantial inadequace with substantial comp Demonstrate poor an being able to complet assed course	assed MATH1013 or (MATH1851 an only. 9 - 2020 : Y illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some in lications and presentation or with some minor opptable understanding of key concepts and ideaquacies in applying the theorems through their of minor computational errors. Inderstanding of key concepts and ideas by being in applying the theorems through incorrect utational errors. In inadequate understanding by not being able the solution.	Exam by being able to identify antly presenting correct lo a with some innovative apply being able to identify the innor inadequacies in argromputational errors. Seas by being able to correctly analysing preing able to correctly analysing problems with analysing problems with a problem with a	ination the approprigical reasor proaches to the appropria uments, ide ectly identify oblems with tify appropri	Dec iate theorems and their initiation of theorems and their initiation of the initi
and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching & Learning Activities	2, or equiv Not for stucourses. For BSc(A Y 1st: A B C D Fail Lecture-ba Activities Tutorials	ctuarSc) students of sem Offer in 201 Demonstrate an exce applications through of and being able to carr Demonstrate a good applications through of theorems or their app Demonstrate an accebut with some inade presentation or a num Demonstrate some unsubstantial inadequace with substantial comp Demonstrate poor an being able to complete ased course	assed MATH1013 or (MATH1851 an only. 9 - 2020: Y Illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some milications and presentation or with some minor of the pequacies in applying the theorems through other of minor computational errors. Inderstanding of key concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be concepts and ideas by	Exam by being able to identify antly presenting correct lo a with some innovative apply being able to identify the innor inadequacies in argromputational errors. Seas by being able to correctly analysing preing able to correctly analysing problems with analysing problems with a problem with a	ination the approprigical reasor proaches to the appropria uments, ide ectly identify oblems with tify appropri	Dec iate theorems and their ing and argumentation solving problems. appropriate theorems and their intifying the appropriate theorems in poor argument and iate theorems, but withment or presentation on heir applications, or no No. of Hours 36
And Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching & Learning Activities Assessment Methods	2, or equiv Not for stucourses. For BSc(A Y 1st: A B C D Fail Lecture-ba Activities Lectures Tutorials Reading / Methods	ralent; and idents who have pure ctuarSc) students are seem. Offer in 201 Demonstrate an exce applications through and being able to carr Demonstrate a good applications through a theorems or their apploarm of theorems or their apploarm of an accept with its ome inade presentation or a num Demonstrate some unsubstantial inadequaction with substantial compounds able to complete ased course. Self study	assed MATH1013 or (MATH1851 an only. 9 - 2020 : Y illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some in lications and presentation or with some minor opptable understanding of key concepts and ideaquacies in applying the theorems through their of minor computational errors. Inderstanding of key concepts and ideas by being in applying the theorems through incorrect utational errors. In inadequate understanding by not being able the solution.	Exam by being able to identify antly presenting correct lo d with some innovative apr y being able to identify tr innor inadequacies in arg computational errors. as by being able to corre incorrectly analysing pr eing able to correctly iden thy analysing problems with to identify appropriate the Weighting in course grad	ination the approprigical reasor proaches to be appropriate approp	Dec iate theorems and their ining and argumentation solving problems. ate theorems and their ining and argumentation solving problems. ate theorems and their intrifying the appropriate theorems in poor argument and iate theorems, but with ment or presentation on their applications, or not increase in poor argument and iate theorems, but with ment or presentation on their applications, or not increase in poor argument and iate theorems, but with ment or presentation on their applications, or not increase in poor argument and increase in po
and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching & Learning Activities	2, or equiv Not for stucourses. For BSc(A Y 1st: A B C D Fail Lecture-ba Activities Lectures Tutorials Reading /	ralent; and idents who have pure ctuarSc) students are seem. Offer in 201 Demonstrate an exce applications through and being able to carr Demonstrate a good applications through a theorems or their apploarm of theorems or their apploarm of an accept with its ome inade presentation or a num Demonstrate some unsubstantial inadequaction with substantial compounds able to complete ased course. Self study	assed MATH1013 or (MATH1851 an only. 9 - 2020: Y Illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some milications and presentation or with some minor of the pequacies in applying the theorems through other of minor computational errors. Inderstanding of key concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be concepts and ideas by	Exam is by being able to identify antly presenting correct lo a with some innovative apply being able to identify the innor inadequacies in argumentational errors. Seas by being able to correctly analysing professing able to correctly analysing problems with a to identify appropriate the weight of the innormal errors.	ination the approprigical reasor proaches to be appropriate approp	Dec iate theorems and their ing and argumentation solving problems. ate theorems and their intifying the appropriate of appropriate theorems and poor argument and iate theorems, but with ment or presentation on their applications, or no No. of Hours 36 12 100 Assessment Methods
And Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching & Learning Activities Assessment Methods	2, or equiv Not for stucourses. For BSc(A Y 1st: A B C D Fail Lecture-ba Activities Lectures Tutorials Reading / Methods	ralent; and idents who have pure ctuarSc) students are seem. Offer in 201 Demonstrate an exce applications through and being able to carr Demonstrate a good applications through a theorems or their apploarm of theorems or their apploarm of an accept with its ome inade presentation or a num Demonstrate some unsubstantial inadequaction with substantial compounds able to complete ased course. Self study	assed MATH1013 or (MATH1851 an only. 9 - 2020: Y Illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some milications and presentation or with some minor of the pequacies in applying the theorems through other of minor computational errors. Inderstanding of key concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be clearly an one of the concepts and ideas by be concepts and ideas by	Exam by being able to identify antly presenting correct lo d with some innovative apr y being able to identify tr innor inadequacies in arg computational errors. as by being able to corre incorrectly analysing pr eing able to correctly iden thy analysing problems with to identify appropriate the Weighting in course grad	ination the approprigical reasor proaches to be appropriate approp	Dec iate theorems and their ining and argumentation solving problems. ate theorems and their ining and argumentation solving problems. ate theorems and their intrifying the appropriate theorems in poor argument and iate theorems, but with ment or presentation on their applications, or not increase in poor argument and iate theorems, but with ment or presentation on their applications, or not increase in poor argument and iate theorems, but with ment or presentation on their applications, or not increase in poor argument and increase in po
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching & Learning Activities Assessment Methods and Weighting Required/recommended reading and	2, or equiv Not for stucourses. For BSc(A Y 1st: A B C D Fail Lecture-ba Activities Lectures Tutorials Reading / Methods Examinati Test George B edition)	ralent; and idents who have postuarSc) students seem. Offer in 201 Demonstrate an exce applications through and being able to carr Demonstrate a good applications through a theorems or their app Demonstrate an acce but with some inade presentation or a num Demonstrate some un substantial inadequace with substantial comp Demonstrate poor an being able to complete ased course. Self study on.	assed MATH1013 or (MATH1851 an only. 9 - 2020 : Y Illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some milications and presentation or with some minor of the pequacies in applying the theorems through other of minor computational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be concepts and ideas by con	Exams by being able to identify antly presenting correct lot with some innovative apply being able to identify the property of	ination the approprigical reasor oroaches to eappropria uments, ide ectly identify oblems with tify appropri n poor argu- eorems or the	Dec iate theorems and thei ining and argumentatior solving problems. ate theorems and thei intifying the appropriate rappropriate theorems n poor argument and iate theorems, but with ment or presentation o heir applications, or no No. of Hours 36 12 100 Assessment Methods to CLO Mapping CLO 1,2,3,4,5,6 CLO 1,2,3,4,5,6 CLO 1,2,3,4,5,6
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching & Learning Activities Assessment Methods and Weighting Required/recommended reading and online materials	2, or equiv Not for stucourses. For BSc(A Y 1st: A B C D Fail Lecture-ba Activities Lectures Tutorials Reading / Methods Examinati Test George B edition) Steven J. I	calent; and idents who have punctuarSc) students seem. Offer in 201 Demonstrate an exce applications through and being able to carr Demonstrate a good applications through a displications through a displication or a number of their applementation or a number of their applementatio	assed MATH1013 or (MATH1851 an only. 9 - 2020 : Y illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some inlications and presentation or with some minor or o	Exams by being able to identify antly presenting correct lot with some innovative apply being able to identify the property of	ination the approprigical reasor oroaches to eappropria uments, ide ectly identify oblems with tify appropri n poor argu- eorems or the	Dec iate theorems and thei ining and argumentatior solving problems. ate theorems and thei intifying the appropriate rappropriate theorems n poor argument and iate theorems, but with ment or presentation o heir applications, or no No. of Hours 36 12 100 Assessment Methods to CLO Mapping CLO 1,2,3,4,5,6 CLO 1,2,3,4,5,6 CLO 1,2,3,4,5,6
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	2, or equiv Not for stucourses. For BSc(A Y 1st: A B C D Fail Lecture-ba Activities Lectures Tutorials Reading / Methods Examinati Test George B edition) Steven J. I	ralent; and idents who have postuarsc) students sem. Offer in 201 Demonstrate an exce applications through and being able to carr Demonstrate a good applications through a theorems or their app Demonstrate an acce but with some inade presentation or a num Demonstrate some unsubstantial inadequace with substantial comp Demonstrate poor an being able to complete assed course. Self study Thomas; as revieteen: Linear Algebidle.hku.hk/	assed MATH1013 or (MATH1851 an only. 9 - 2020 : Y Illent understanding of key concepts and ideas correctly analysing problems, clearly and elegary out computations carefully and correctly, and understanding of key concepts and ideas by correctly analysing problems, but with some milications and presentation or with some minor of the pequacies in applying the theorems through other of minor computational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be clean in applying the theorems through incorrect utational errors. Inderstanding of key concepts and ideas by be concepts and ideas by con	Exams by being able to identify antly presenting correct lot with some innovative apply being able to identify the property of	ination the approprigical reasor oroaches to eappropria uments, ide ectly identify oblems with tify appropri n poor argu- eorems or the	Dec iate theorems and thei ining and argumentatior solving problems. ate theorems and thei intifying the appropriate rappropriate theorems n poor argument and iate theorems, but with ment or presentation o heir applications, or no No. of Hours 36 12 100 Assessment Methods to CLO Mapping CLO 1,2,3,4,5,6 CLO 1,2,3,4,5,6 CLO 1,2,3,4,5,6

MATH2822	Mathema	atical methods fo	or actuarial science II (6 credit	s) Academic	Year 2018		
Offering Department	Mathemat	ics	·	Quota			
Course Co-ordinator	Dr J T Cha	an, Mathematics (jtcl	han@hku.hk)				
Teachers Involved	(Dr J T Ch	nan,Mathematics)					
Course Objectives	This course is the second of the two mathematics courses designed to provide actuarial science students with solid background of calculus of one and several variables and an introduction to linear algebra. The course focuse on multivariable calculus and linear algebra. It aims at students with MATH1821. It can be followed by other 200 or 3000 level mathematics courses.						
Course Contents & Topics	- Eigenval - Quadrati - Vector s - Function - Gradient - Taylor a - Maxima - Double a	or 3000 level mathematics courses. Matrices, systems of linear equations, determinants. Eigenvalues and eigenvectors, diagonalization of matrices. Quadratic functions and their standard forms. Vector spaces and subspaces. Functions of several variables; partial differentiation. Gradients and directional derivatives. Taylor approximation, Newton's method. Maxima and minima; Lagrange multipliers. Double and triple integrals, areas and volumes.					
Course Learning Outcomes	CLO 1 un de ar CLO 2 un the	nderstand and recogneterminants, systems and dimension, and the derstand and recogne Hessian test for loc	nis course, students should be able to gnize various topics in linear algeb s of linear equations, eigenvalues an e rank-nullity theorem nize various topics in functions of se cal extrema, vector-valued functions, and the change of variable formula	ra such as the basic a d eigenvectors, diagona everal variables includinç	lizable matrices, basis g partial differentiation,		
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in M		<u> </u>				
Offer in 2018 - 2019	Y 2nd	sem Offer in 2019	9 - 2020 : Y	Examinati	on May		
Grade Descriptors (A+ to F)	A	applications through column and being able to carry	ent understanding of key concepts and ideas to rrectly analysing problems, clearly and elegar out computations carefully and correctly, and versions of the computations carefully and correctly, and versions of the computations	ntly presenting correct logical rowith some innovative approach	easoning and argumentation es to solving problems.		
	В	applications through co theorems or their application	nderstanding of key concepts and ideas by irrectly analysing problems, but with some mi- lations and presentation or with some minor co	nor inadequacies in arguments imputational errors.	s, identifying the appropriate		
	C	but with some inadeq presentation or a number	table understanding of key concepts and idea uacies in applying the theorems through i er of minor computational errors.	ncorrectly analysing problems	s with poor argument and		
	D	substantial inadequacie with substantial computer		analysing problems with poor	argument or presentation or		
	Fail	Demonstrate poor and i	inadequate understanding by not being able to	o identify appropriate theorems	s or their applications, or not		
Course Type	Lecture-ha	ased course					
Course Teaching	Activities		Details		No. of Hours		
& Learning Activities	Lectures	-			36		
_	Tutorials				12		
		Self study			100		
Assessment Methods and Weighting	Methods	,	Details	Weighting in fina course grade (%)			
	Examinat	ion		50	CLO 1,2		
	Test		2 tests	50	CLO 1,2		
Required/recommended reading and online materials	edition)		ed by Maurice D. Weir and Joel Ha a with Applications (Pearson Prentice		(Addison Wesley, 12th		
Course Website		dle.hku.hk/	with Applications (FeatSon Fielitice	ı ıaıı)			
Course Websile	-πιιφ.//που	uic.liku.lik/					
Additional Course	Tutorial tir	netable:					

	Probability and statistics: foundations of actuarial science (6 credits) Academic Year					r 2018
Offering Department	Statistics 8	& Actuarial Science		C	Quota	
Course Co-ordinator	Prof S M S	S Lee, Statistics & Actu	uarial Science (smslee@hku.hk)			
Teachers Involved	(Prof S M	S Lee, Statistics & Actu	uarial Science)			
Course Objectives	The purpo	ose of this course is	to develop knowledge of the fundar	mental tools	in probability	and statistics fo
		,	applications of these tools to actual ommand of probability topics and the s		•	be emphasized
Course Learning Outcomes	- Basic ele - Mutually - Addition - Independ - Combina - Condition - Bayes th - Random 2. Univaria uniform, edistributior - Probabili - Cumulatia - Mode, m - Variance - Central li 3. Samplir On success	ate probability distributexponential, chi-squarenty functions and probalive distribution functionedian, percentiles and measures of dispirit theorem and distributions and intresful completion of this	ectations robability tions (including binomial, negative bing, beta, Pareto, lognormal, gamma, bility density functions is moments	Weibull an	d normal) and	
, accomico	CLO 2	develop skills in proba	bilistic analysis for problems involving	randomnes	s	
N		117 1	obability and statistics to solve actuari			
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in Ma	ATH1013 or already er tudents who have pas	uarSc) students] or already enrolled in nrolled in this course [for students outs ssed or enrolled in any of these co	side the BSo	(ActuarSc) pro	
Offer in 2018 - 2019	Y 2nd	sem Offer in 2019 -	2020 : Y	E	Examination	May
Grade Descriptors	Α		astery at an advanced level of extensive kno			ttaining all the course
(A+ to F)			strong analytical and critical abilities and logica wide range of complex, familiar and unfamilia			
•	В	to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situat	wide range of complex, familiar and unfamilia command of a broad range of knowledge and evidence of analytical and critical abilities and litions. Apply effective organizational and presen	ar situations. A skills required ogical thinking, tational skills.	Apply highly effection for attaining at least and ability to apply	ive organizational and ast most of the course y knowledge to familia
•	С	to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situat Demonstrate general but outcomes. Show evidence familiar situations. Apply m	wide range of complex, familiar and unfamiliar command of a broad range of knowledge and evidence of analytical and critical abilities and litions. Apply effective organizational and presen incomplete command of knowledge and ski of some analytical and critical abilities and Indoderately effective organizational and presentations.	ar situations. A skills required ogical thinking, tational skills. Ils required fo ogical thinking ational skills.	Apply highly effection for attaining at least and ability to apply attaining most of and ability to app	ive organizational and ast most of the course y knowledge to familia of the course learning oly knowledge to mos
•	C D	to apply knowledge to a presentational skills. Demonstrate substantial clearning outcomes. Show and some unfamiliar situat Demonstrate general but outcomes. Show evidence familiar situations. Apply m Demonstrate partial but lim Show evidence of some coknowledge to solve proble	wide range of complex, familiar and unfamiliar command of a broad range of knowledge and evidence of analytical and critical abilities and licions. Apply effective organizational and presen incomplete command of knowledge and ski e of some analytical and critical abilities and linoderately effective organizational and presentanited command of knowledge and skills requiriblement and logical thinking, but with limited and ms. Apply limited or barely effective organization	ar situations. A skills required ogical thinking, tational skills. Ils required fo ogical thinking ational skills. red for attaining tallytical and cripnal and preservant of the skills.	apply highly effecti for attaining at lea and ability to apply r attaining most o , and ability to app g some of the cour tical abilities. Show tational skills.	ast most of the course y knowledge to familia of the course learning by knowledge to most see learning outcomes y limited ability to appl
(A+ to F)	C D Fail	to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situations are constrate general but outcomes. Show evidence familiar situations. Apply m Demonstrate partial but lir Show evidence of some or knowledge to solve proble Demonstrate little or no ev of analytical and critical problems. Organization and	wide range of complex, familiar and unfamilia command of a broad range of knowledge and evidence of analytical and critical abilities and li itons. Apply effective organizational and presen incomplete command of knowledge and ski e of some analytical and critical abilities and I noderately effective organizational and present mited command of knowledge and skills requir oherent and logical thinking, but with limited an	skills required ogical thinking, tational skills. Ills required fo ogical thinking attional skills. Ills required for ogical thinking tational skills. The for attaining the for attaining the formul and preser equired for attain very little or	apply highly effecti for attaining at lea and ability to apply r attaining most o , and ability to app g some of the cour tical abilities. Show tataional skills. Ining the course lea	ive organizational and ast most of the course y knowledge to familia of the course learning oly knowledge to most release to the course learning outcomes are learning outcomes. Lac
(A+ to F)	C D Fail Lecture-ba	to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situations are considered to be considered to be considered to be considered to solve problementate partial but lired to solve problementate partial to the considered to solve problementate little or no even analytical and critical problems. Organization and ased course	wide range of complex, familiar and unfamiliar command of a broad range of knowledge and evidence of analytical and critical abilities and litions. Apply effective organizational and presen incomplete command of knowledge and skile of some analytical and critical abilities and linoderately effective organizational and present mited command of knowledge and skills require other and logical thinking, but with limited and ms. Apply limited or barely effective organizational end skills reduired and skills are minimally effective organizational skills are minimally effecti	skills required ogical thinking, tational skills. Ills required fo ogical thinking attional skills. Ills required for ogical thinking tational skills. The for attaining the for attaining the formul and preser equired for attain very little or	apply highly effecti for attaining at lea and ability to apply r attaining most o , and ability to app g some of the cour tical abilities. Show tataional skills. Ining the course lea	ive organizational and ast most of the course y knowledge to familia of the course learning by knowledge to most reselearning outcomes within the deliberation of the course learning outcomes arning outcomes. Lacly knowledge to solve
(A+ to F) Course Type Course Teaching	C D Fail Lecture-ba Activities	to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situations are considered to be considered to be considered to be considered to solve problementate partial but lired to solve problementate partial to the considered to solve problementate little or no even analytical and critical problems. Organization and ased course	wide range of complex, familiar and unfamiliar command of a broad range of knowledge and evidence of analytical and critical abilities and letions. Apply effective organizational and present incomplete command of knowledge and skile of some analytical and critical abilities and leaderately effective organizational and presents mitted command of knowledge and skills require oherent and logical thinking, but with limited an ms. Apply limited or barely effective organizatic vidence of command of knowledge and skills reabilities, logical and coherent thinking. Show	skills required ogical thinking, tational skills. Ills required fo ogical thinking attional skills. Ills required for ogical thinking tational skills. The for attaining the for attaining the formul and preser equired for attain very little or	apply highly effecti for attaining at lea and ability to apply r attaining most o , and ability to app g some of the cour tical abilities. Show tataional skills. Ining the course lea	ast most of the course y knowledge to familia of the course learning oly knowledge to most rese learning outcomes y limited ability to apply arning outcomes. Lack y knowledge to solve
(A+ to F) Course Type Course Teaching	C D Fail Lecture-ba Activities Lectures	to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situations are considered to be considered to be considered to be considered to solve problementate partial but lired to solve problementate partial to the considered to solve problementate little or no even analytical and critical problems. Organization and ased course	wide range of complex, familiar and unfamiliar command of a broad range of knowledge and evidence of analytical and critical abilities and lations. Apply effective organizational and present incomplete command of knowledge and skile of some analytical and critical abilities and landerately effective organizational and present mited command of knowledge and skills require otherent and logical thinking, but with limited and ms. Apply limited or barely effective organizatio vidence of command of knowledge and skills reabilities, logical and coherent thinking. Show did presentational skills are minimally effective organizational skills are minimally effective or	skills required ogical thinking, tational skills. Ills required fo ogical thinking attional skills. Ills required for ogical thinking tational skills. The for attaining the for attaining the formul and preser equired for attain very little or	apply highly effecti for attaining at lea and ability to apply r attaining most o , and ability to app g some of the cour tical abilities. Show tataional skills. Ining the course lea	ast most of the course y knowledge to familia of the course learning oly knowledge to most use learning outcomes of limited ability to apply arning outcomes. Lacky knowledge to solve No. of Hours 36
(A+ to F) Course Type Course Teaching	C D Fail Lecture-ba Activities Lectures Tutorials	to apply knowledge to a presentational skills. Demonstrate substantial clearning outcomes. Show and some unfamiliar situations. Show evidence familiar situations. Apply memorstrate partial but limits of some continuous continuous. Show evidence familiar situations. Apply memorstrate partial but limits show evidence of some continuous continuous problemonstrate little or no evidence of analytical and critical problems. Organization and ased course	wide range of complex, familiar and unfamiliar command of a broad range of knowledge and evidence of analytical and critical abilities and litions. Apply effective organizational and presen incomplete command of knowledge and skile of some analytical and critical abilities and linoderately effective organizational and present mited command of knowledge and skills require other and logical thinking, but with limited and ms. Apply limited or barely effective organizational end skills reduired and skills are minimally effective organizational skills are minimally effecti	skills required ogical thinking, tational skills. Ills required fo ogical thinking attional skills. Ills required for ogical thinking tational skills. The for attaining the for attaining the formul and preser equired for attain very little or	apply highly effecti for attaining at lea and ability to apply r attaining most o , and ability to app g some of the cour tical abilities. Show tataional skills. Ining the course lea	ive organizational and ast most of the course y knowledge to familia of the course learning by knowledge to most see learning outcomes y limited ability to apply arning outcomes. Lacly knowledge to solve No. of Hours 36 12
Course Type Course Teaching & Learning Activities	C D Fail Lecture-ba Activities Lectures Tutorials Reading /	to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situations are considered to be considered to be considered to be considered to solve problementate partial but lired to solve problementate partial to the considered to solve problementate little or no even analytical and critical problems. Organization and ased course	wide range of complex, familiar and unfamiliar command of a broad range of knowledge and evidence of analytical and critical abilities and litions. Apply effective organizational and present incomplete command of knowledge and skill orderately effective organizational and present inted command of knowledge and skills required to the command of knowledge and skills read to the command of knowledge and skills required to the command of knowledge and the cofficial the command of knowledge and the command of knowledge and	ar situations. A skills required ogical thinking, tational skills. Ills required fo ogical thinking ational skills. ed for attaining altylical and cri onal and preser equired for atta very little or r ineffective.	apply highly effecti for attaining at lea and ability to apply r attaining most o , and ability to app g some of the cour tical abilities. Show attainal skills. Ining the course lea no ability to apply	ive organizational and ast most of the course y knowledge to familia of the course learning oly knowledge to most see learning outcomes within the ability to appliarning outcomes. Lac y knowledge to solve the course of the cou
Course Type Course Teaching Learning Activities Assessment Methods	C D Fail Lecture-ba Activities Lectures Tutorials	to apply knowledge to a presentational skills. Demonstrate substantial clearning outcomes. Show and some unfamiliar situations. Show evidence familiar situations. Apply memorstrate partial but limits of some continuous continuous. Show evidence familiar situations. Apply memorstrate partial but limits show evidence of some continuous continuous problemonstrate little or no evidence of analytical and critical problems. Organization and ased course	wide range of complex, familiar and unfamiliar command of a broad range of knowledge and evidence of analytical and critical abilities and lations. Apply effective organizational and present incomplete command of knowledge and skile of some analytical and critical abilities and landerately effective organizational and present mited command of knowledge and skills require otherent and logical thinking, but with limited and ms. Apply limited or barely effective organizatio vidence of command of knowledge and skills reabilities, logical and coherent thinking. Show did presentational skills are minimally effective organizational skills are minimally effective or	ar situations. A skills required ogical thinking, tational skills. Ills required fo ogical thinking ational skills. We do rattaining halytical and crional and preser equired for attain very little or in ineffective.	apply highly effecti for attaining at lea and ability to apply r attaining most o , and ability to app g some of the cour tical abilities. Show tataional skills. Ining the course lea	ive organizational and ast most of the course y knowledge to familia of the course learning by knowledge to most see learning outcomes y limited ability to apply arning outcomes. Lacly knowledge to solve No. of Hours 36 12
Course Type Course Teaching Learning Activities Assessment Methods	C D Fail Lecture-ba Activities Lectures Tutorials Reading /	to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situations. Demonstrate general but outcomes. Show evidence familiar situations. Apply m Demonstrate partial but lir Show evidence of some or knowledge to solve proble. Demonstrate little or no evidence of analytical and critical problems. Organization and ased course. Self study	wide range of complex, familiar and unfamiliar command of a broad range of knowledge and evidence of analytical and critical abilities and litions. Apply effective organizational and present incomplete command of knowledge and skill orderately effective organizational and present inted command of knowledge and skills required to the command of knowledge and skills read to the command of knowledge and skills required to the command of knowledge and the cofficial the command of knowledge and the command of knowledge and	ar situations. A skills required ogical thinking, tational skills. Ills required fo ogical thinking ational skills. ed for attaining altylical and crional and preser equired for atta very little or in ineffective. Weighti Course	Apply highly effecti for attaining at lea and ability to apply r attaining most o , and ability to app g some of the cour tical abilities. Show attainal skills. ining the course lea no ability to apply	ast most of the course y knowledge to familia of the course learning oly knowledge to most see learning outcomes were learning outcomes. Lacily knowledge to solve the course learning outcomes. Lacily knowledge to solve the course of the cou
Course Type Course Teaching & Learning Activities Assessment Methods	C D Fail Lecture-ba Activities Lectures Tutorials Reading / Methods	to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situations. Demonstrate general but outcomes. Show evidence familiar situations. Apply m Demonstrate partial but lir Show evidence of some or knowledge to solve proble Demonstrate little or no ev of analytical and critical problems. Organization and ased course Self study	wide range of complex, familiar and unfamiliar command of a broad range of knowledge and evidence of analytical and critical abilities and litions. Apply effective organizational and present incomplete command of knowledge and skile of some analytical and critical abilities and I noderately effective organizational and present mitted command of knowledge and skills require otherent and logical thinking, but with limited and ms. Apply limited or barely effective organizational command of knowledge and skills realistication of command of knowledge and skills realistication of command of knowledge and skills and presentational skills are minimally effective of petails Details	ar situations. A skills required ogical thinking, tational skills. Ills required for ogical thinking attonal skills. Ills required skills. It was a state of the skills of	apply highly effecti for attaining at lea and ability to apply r attaining most o and ability to app g some of the cour tical abilities. Show attaining the course lea no ability to apply	ive organizational and ast most of the course y knowledge to familia of the course learning oly knowledge to most see learning outcomes within the course learning outcomes within the course of the c
•	C D Fail Lecture-ba Activities Lectures Tutorials Reading / Methods Assignme Examinati Feller, W. Hassett, M. Hogg RV & Sheldon R Wackerly	to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situations. Apply m Demonstrate general but outcomes. Show evidence familiar situations. Apply m Demonstrate partial but lir Show evidence of some or knowledge to solve proble Demonstrate little or no ev of analytical and critical problems. Organization and ased course Self study Tents Tents	wide range of complex, familiar and unfamiliar command of a broad range of knowledge and evidence of analytical and critical abilities and I itons. Apply effective organizational and present incomplete command of knowledge and skile of some analytical and critical abilities and I noderately effective organizational and present mitted command of knowledge and skills require otherent and logical thinking, but with limited an ms. Apply limited or barely effective organizational endough of knowledge and skills read in the command of knowledge and skills read in the command of knowledge and skills are abilities, logical and coherent thinking. Showledge and skills are minimally effective of the command of knowledge and skills are minimally effective of the command of knowledge and skills are minimally effective of the command of knowledge and skills are minimally effective of the command of knowledge and skills are minimally effective of the command of the c	ar situations. A skills required ogical thinking, tational skills. Ills required fo ogical thinking attonal skills. Ills required fo ogical thinking attonal skills. In each of the stational and preser equired for attaining attonal and preser equired for attain or very little or ineffective. Weighti course titions. Wiley 2nd Edition). Pre Hall: Upper	apply highly effectifor attaining at lea and ability to apply a tataining most of and ability to apply a some of the courtical abilities. Show a tational skills. In a courtical ability to apply a some of the courtical abilities. Show a tational skills. In a courtical ability to apply a show a courtical ability to apply a courtical ab	ive organizational and ast most of the course y knowledge to familia of the course learning oly knowledge to most see learning outcomes within the course learning outcomes within the course learning outcomes. Lacy knowledge to solve the course of the cou

STAT2902	Financial mathematics (6 credits) Academic Year						
Offering Department	Statistics & Actuarial Science Quota						
Course Co-ordinator	Prof K C	Yuen, Statistics &	Actuarial Science	(kcyuen@hku.hk)			
Teachers Involved	(Prof K C	Yuen, Statistics &	Actuarial Science)				
Course Objectives				cepts of financial mathemat actical applications of these			
Course Contents & Topics	amortizati mortgage	on schedules and and short sales;	d sinking funds; bo stochastic approa	st, annuities certain; disco nds and related securities; p ches to interest; and key to evexity, and immunization.	oractical applications si	uch as real estate	
Course Learning Outcomes	On succes		of this course, stude c concepts of finance	ents should be able to: cial mathematics			

	CLO 2	understand and formul	ate elementary financial problems		
	CLO 3		st theory to tackle some practical fir	nancial problems	
	CLO 4		of the term structure of interest rate		
	CLO 5		g of simple stochastic models for inv		
Pre-requisites (and Co-requisites and Impermissible combinations)			rolled in this course; and d in STAT3615, or already enrolled i	n this course.	
Offer in 2018 - 2019	Y 2nd	d sem Offer in 2019 - 2	2020 : Y	Examination	May
Grade Descriptors (A+ to F)	A	learning outcomes. Show s to apply knowledge to a w presentational skills.	stery at an advanced level of extensive known trong analytical and critical abilities and logical range of complex, familiar and unfamiliar and unfami	cal thinking, with evidence of ori iar situations. Apply highly effe	ginal thought, and ability ctive organizational and
	В	learning outcomes. Show e	ommand of a broad range of knowledge and vidence of analytical and critical abilities and ons. Apply effective organizational and prese	logical thinking, and ability to ap	
	С	outcomes. Show evidence	ncomplete command of knowledge and sk of some analytical and critical abilities and oderately effective organizational and presen	logical thinking, and ability to a	
	D	Show evidence of some colknowledge to solve problem	ited command of knowledge and skills requi herent and logical thinking, but with limited a ns. Apply limited or barely effective organizati	nalytical and critical abilities. Sho ional and presentational skills.	ow limited ability to apply
	Fail	of analytical and critical a	dence of command of knowledge and skills r bilities, logical and coherent thinking. Show I presentational skills are minimally effective	w very little or no ability to ap	
Course Type	Lecture-b	ased course			
0 T - !			Details		
Course Leaching	Activities	S	Details		No. of Hours
	Activities Lectures	*	Details		No. of Hours
		-	Details tutorials/example classes		
	Lectures Tutorials	-			36
& Learning Activities Assessment Methods	Lectures Tutorials	/ Self study		Weighting in final course grade (%)	36 12
Course Teaching & Learning Activities Assessment Methods and Weighting	Lectures Tutorials Reading	/ Self study	tutorials/example classes		36 12 100 Assessment Methods
& Learning Activities Assessment Methods	Lectures Tutorials Reading Methods	/ Self study	tutorials/example classes Details Coursework (assignments,	course grade (%)	36 12 100 Assessment Methods to CLO Mapping
& Learning Activities Assessment Methods	Lectures Tutorials Reading Methods Assignme Examinat Kellison, S	/ Self study ents tion S. G.: The Theory of Inte	tutorials/example classes Details Coursework (assignments, tutorials, and class test(s))	25 75	36 12 100 Assessment Methods to CLO Mapping CLO 1,2,3,4,5 CLO 1,2,3,4,5

STAT3602	Statistic	cal inference (6 cre	dits)		Academic Year	2018	
Offering Department	Statistics	& Actuarial Science	<u>, </u>		Quota		
Course Co-ordinator	Prof S M	S Lee, Statistics & Actu	uarial Science (smslee@hku.l	nk)			
Teachers Involved	(Prof S M	S Lee Statistics & Actu	uarial Science)	,			
Course Objectives	mathema statistical	This course covers the advanced theory of point estimation, interval estimation and hypothesis testing. Us mathematically-oriented approach, the course provides a solid and rigorous treatment of inferential prob statistical methodologies and the underlying concepts and theory. It is suitable in particular for students into further their studies or to develop a career in statistical research.					
Course Contents & Topics	unbiased 2. Decision 3. Estimator 4. Hypoth	Decision problem - frequentist approach: loss function; risk; decision rule; admissibility; mini unbiasedness; Bayes' rule. Decision problem - Bayesian approach: prior and posterior distributions, Bayesian inference. Setimation theory: exponential families; likelihood; sufficiency; minimal sufficiency; completeness; estimators; information inequality; large-sample theory of maximum likelihood estimation. Hypothesis testing: uniformly most powerful test; monotone likelihood ratio; UMP unbiased test; large theory of likelihood ratio; confidence set.					
Course Learning	On succe	ssful completion of this	course, students should be a	ible to:			
Outcomes	CLO 1		v of classical developments in		istics		
	CLO 2	gain thorough insight in	nto the essentials of statistica	Il inference			
	CLO 3 build a solid foundation for future research studies in statistics and related areas						
Pre-requisites		TAT2602 or STAT3902					
(and Co-requisites and Impermissible combinations)	Pass in S	TAT2602 or STAT3902	2		Examination	Dec	
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019	Pass in S	TAT2602 or STAT3902 sem Offer in 2019 - 2	2 2020 : Y				
Pre-requisites (and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F)	Pass in S	t sem Offer in 2019 - 2 Demonstrate thorough malearning outcomes. Show	2	ensive knowledge and and logical thinking, w	skills required for att	taining all the course al thought, and ability	
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	Pass in S	t sem Offer in 2019 - 2 Demonstrate thorough malearning outcomes. Show to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show	2 2020 : Y astery at an advanced level of exte strong analytical and critical abilities	ensive knowledge and and logical thinking, w d unfamiliar situations. ledge and skills require lities and logical thinkin	skills required for att ith evidence of origin. Apply highly effectiv d for attaining at leas g, and ability to apply	taining all the course al thought, and ability re organizational and st most of the course	
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	Pass in S	t sem Offer in 2019 - 2 Demonstrate thorough ma learning outcomes. Show to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situat Demonstrate general but outcomes. Show evidence familiar situations. Apply manufactures.	2020: Y astery at an advanced level of extestrong analytical and critical abilities wide range of complex, familiar an examination of a broad range of know evidence of analytical and critical abitions. Apply effective organizational a incomplete command of knowledge of some analytical and critical abinoderately effective organizational ar	ensive knowledge and a rand logical thinking, we deduce the unfamiliar situations. I ledge and skills required fitties and logical thinking and skills required fitties and logical thinking the and skills required fitties and logical thinking the sentational skills.	skills required for att ith evidence of origin. Apply highly effectiv d for attaining at leas g, and ability to apply for attaining most of g, and ability to appl	taining all the course al thought, and ability re organizational and st most of the course knowledge to familiar the course learning ly knowledge to most	
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	Pass in S Y 1si A	t sem Offer in 2019 - 2 Demonstrate thorough malearning outcomes. Show to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situation Demonstrate general but outcomes. Show evidence familiar situations. Apply m Demonstrate partial but lir Show evidence of some or	2020 : Y astery at an advanced level of exte strong analytical and critical abilities wide range of complex, familiar an command of a broad range of know evidence of analytical and critical ab tions. Apply effective organizational a incomplete command of knowledge of some analytical and critical abi	ensive knowledge and and logical thinking, we define and skills require lities and logical thinking and presentational skills eand skills required fities and logical thinking presentational skills. It is and logical thinking presentational skills. It is and logical thinking presentational skills. It is an an important the same presentational skills.	skills required for att ith evidence of origin Apply highly effectiv d for attaining at leas g, and ability to apply for attaining most of g, and ability to appl mg some of the cours rritical abilities. Show	laining all the course al thought, and ability re organizational and st most of the course knowledge to familiar the course learning by knowledge to most se learning outcomes.	
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	Pass in S Y 1s A B	Demonstrate substantial of learning outcomes. Show to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situations apply mount of the substantial of learning outcomes. Show evidence familiar situations. Apply mount of the substantial outcomes. Show evidence familiar situations. Apply mount of the substantial outcomes of some or knowledge to solve proble. Demonstrate little or no evidence of analytical and critical of the substantial of the substantial outcomes.	2020 : Y astery at an advanced level of exte strong analytical and critical abilities wide range of complex, familiar an command of a broad range of know evidence of analytical and critical ab tions. Apply effective organizational a incomplete command of knowledge of some analytical and critical ab noderately effective organizational ar mited command of knowledge and s oherent and logical thinking, but with	ensive knowledge and and logical thinking, we define and skills required lities and logical thinking and presentational skills eand skills required fittes and logical thinking presentational skills. Wills required for attaini limited analytical and corganizational and presental skills required for attaini skills required for attaining. Show very little of the skills required for attaining. Show very little of the skills required for attaining.	skills required for att ith evidence of origin Apply highly effectiv d for attaining at leas g, and ability to apply for attaining most of g, and ability to appl ng some of the cours riftical abilities. Show entational skills.	laining all the course at thought, and ability are organizational and st most of the course knowledge to familiar the course learning by knowledge to most se learning outcomes. limited ability to apply arning outcomes. Lack	
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F)	Pass in S Y 1s A B C D	Demonstrate substantial of learning outcomes. Show to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situations apply mount of the substantial of learning outcomes. Show evidence familiar situations. Apply mount of the substantial outcomes. Show evidence familiar situations. Apply mount of the substantial outcomes of some or knowledge to solve proble. Demonstrate little or no evidence of analytical and critical of the substantial of the substantial outcomes.	2020 : Y astery at an advanced level of exte strong analytical and critical abilities wide range of complex, familiar an command of a broad range of know evidence of analytical and critical ab tions. Apply effective organizational a incomplete command of knowledge of some analytical and critical ab noderately effective organizational a mitted command of knowledge and s oherent and logical thinking, but with rms. Apply limited or barely effective vidence of command of knowledge a abilities, logical and coherent think	ensive knowledge and and logical thinking, we define and skills required lities and logical thinking and presentational skills eand skills required fittes and logical thinking presentational skills. Wills required for attaini limited analytical and corganizational and presental skills required for attaini skills required for attaining. Show very little of the skills required for attaining. Show very little of the skills required for attaining.	skills required for att ith evidence of origin Apply highly effectiv d for attaining at leas g, and ability to apply for attaining most of g, and ability to appl ng some of the cours riftical abilities. Show entational skills.	laining all the course at thought, and ability are organizational and st most of the course knowledge to familiar the course learning by knowledge to most se learning outcomes. limited ability to apply arning outcomes. Lack	
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	Pass in S Y 1s A B C D	Demonstrate thorough malearning outcomes. Show to apply knowledge to a presentational skills. Demonstrate substantial of learning outcomes. Show and some unfamiliar situational Demonstrate general but outcomes. Show evidence familiar situations. Apply m Demonstrate partial but lir Show evidence of some or knowledge to solve proble Demonstrate little or no evidence of analytical and critical problems. Organization an assed course	2020 : Y astery at an advanced level of exte strong analytical and critical abilities wide range of complex, familiar an command of a broad range of know evidence of analytical and critical ab tions. Apply effective organizational a incomplete command of knowledge of some analytical and critical ab noderately effective organizational a mitted command of knowledge and s oherent and logical thinking, but with rms. Apply limited or barely effective vidence of command of knowledge a abilities, logical and coherent think	ensive knowledge and and logical thinking, we define and skills required lities and logical thinking and presentational skills eand skills required fittes and logical thinking presentational skills. Wills required for attaini limited analytical and corganizational and presentational and presentational and presentational corganizational and presentations. Show very little of the second skills required for atting. Show very little of the second skills required for atting.	skills required for att ith evidence of origin Apply highly effectiv d for attaining at leas g, and ability to apply for attaining most of g, and ability to appl ng some of the cours riftical abilities. Show entational skills.	laining all the course at thought, and ability are organizational and st most of the course knowledge to familiar the course learning by knowledge to most se learning outcomes. limited ability to apply arning outcomes. Lack	
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F)	Pass in S Y 1si A B C D Fail	Demonstrate thorough malearning outcomes. Show to apply knowledge to a presentational skills. Demonstrate substantial clearning outcomes. Show and some unfamiliar situational Demonstrate general but outcomes. Show evidence familiar situations. Apply m Demonstrate partial but lir Show evidence of some control knowledge to solve proble Demonstrate little or no evidence of analytical and critical problems. Organization and assed course	2020: Y astery at an advanced level of exte strong analytical and critical abilities wide range of complex, familiar an command of a broad range of know evidence of analytical and critical ab tions. Apply effective organizational a incomplete command of knowledge of some analytical and critical ab noderately effective organizational ar mited command of knowledge and s oherent and logical thinking, but with ms. Apply limited or barely effective vidence of command of knowledge a abilities, logical and coherent think ind presentational skills are minimally	ensive knowledge and and logical thinking, we define and skills required lities and logical thinking and presentational skills eand skills required fittes and logical thinking presentational skills. Wills required for attaini limited analytical and corganizational and presentational and presentational and presentational corganizational and presentations. Show very little of the second skills required for atting. Show very little of the second skills required for atting.	skills required for att ith evidence of origin Apply highly effectiv d for attaining at leas g, and ability to apply for attaining most of g, and ability to appl ng some of the cours riftical abilities. Show entational skills.	laining all the course al thought, and ability re organizational and st most of the course knowledge to familiar the course learning by knowledge to most se learning outcomes. limited ability to apply mining outcomes. Lack knowledge to solve	

	Reading / Self study			100
Assessment Methods and Weighting	Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
	Assignments	Coursework (assignments, tutorials, and a class test)	25	CLO 1,2,3
	Examination	One 2-hour written examination	75	CLO 1,2,3
Required/recommended reading and online materials	Bickel, P. J. & Doksum, K. Upper Saddle River, N.J., 20 Freund, J. E.: Mathematical Hogg, R. V. & Craig, A. T.: In Pace, L. & Salvan, A.: Pri Singapore, 1997).	V.: Statistics: Theory and Methods (Duxbu A.: Mathematical Statistics: Basic Ideas 001) Statistics (Prentice Hall, Englewood Cliffs ntroduction to Mathematical Statistics (Ma nciples of Statistical Inference: from a li-	and Selected Topics, V , N.J., 1992) cmillan, New York, 1989) neo-Fisherian perspectiv	e (World Scientific:
Course Website	http://moodle.hku.hk	•	,	5 · ,

STAT3612	Data m	ining (6 credits)		Academic Yea	r 2018			
Offering Department		& Actuarial Science		Quota				
Course Co-ordinator	Dr A J Zł	hang, Statistics & Actuari	ial Science (ajzhang@hku.hk)	·				
Teachers Involved		hang, Statistics & Actuari	12 22 7					
Course Objectives		V .	technology in the past decade, vas	st amounts of data appear in	n a variety of field			
•			ons management and medicine. The					
	usage of	the aim of creating new knowledge and finding new relationships among data attributes has led to the innovative usage of statistical methodologies and development of new ones. In this process, a new area called data mining is						
	spawned	I. This course provides	a comprehensive and practical cov	verage of essential data min	ning concepts an			
		I models for data mining.		_				
Course Contents	Data pre	-processing, classificatio	n and regression trees, credit scori	ing, kNN classifier, cluster a	analysis and neura			
& Topics	networks	S.						
Course Learning	On succe	essful completion of this	course, students should be able to:					
Outcomes			ocess summarized in the acronym	SEMMA which stands for sa	ampling, exploring			
	n	nodifying, modeling, and	assessing data					
	CLO 2 u	inderstand and apply a	wide range of data mining tech	nniques, and recognize the	eir characteristics,			
		strengths and weaknesse						
	CLO 3 b	e proficient with the lead	ling data mining softwareSAS En	terprise Miner				
	CLO 4 id	dentify and use appropria	ate data mining techniques for a da	ata mining project, taking into	o account both the			
			nined and the goals of the user of th					
	CLO 5 e	evaluate the quality of dis	scovered knowledge, taking into acc	count the requirements of the	e data mining tas			
	b	eing solved and the goal	ls of the user					
Pre-requisites			3 and any University level 2 course)					
(and Co-requisites	Pass in S	STAT3600 or STAT3907,	, or already enrolled in these course	es; and				
and Impermissible	Not for st	tudents who have passed	d in STAT4904, or already enrolled	in this course; and				
combinations)		Sc(Actuarial Science) stu						
			are advised to take STAT4904 Stati		lling instead.			
Offer in 2018 - 2019	Y 2n	nd sem Offer in 2019 - 2	2020 : Y	Examination	No Exam			
Grade Descriptors	Α		stery at an advanced level of extensive kr					
(A+ to F)			strong analytical and critical abilities and log					
			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						
	В	Demonstrate substantial co						
	В	Demonstrate substantial collearning outcomes. Show e	vidence of analytical and critical abilities and	d logical thinking, and ability to appl				
		Demonstrate substantial collearning outcomes. Show e and some unfamiliar situation	evidence of analytical and critical abilities and ons. Apply effective organizational and present and	d logical thinking, and ability to applentational skills.	ly knowledge to familia			
	С	Demonstrate substantial collearning outcomes. Show e and some unfamiliar situation Demonstrate general but it	vidence of analytical and critical abilities and	d logical thinking, and ability to applentational skills. skills required for attaining most of	ly knowledge to familia of the course learning			
	С	Demonstrate substantial collearning outcomes. Show e and some unfamiliar situation Demonstrate general but i outcomes. Show evidence familiar situations. Apply mo	vidence of analytical and critical abilities and ons. Apply effective organizational and press incomplete command of knowledge and s of some analytical and critical abilities and oderately effective organizational and preser	d logical thinking, and ability to applentational skills. skills required for attaining most of logical thinking, and ability to apple thinking, and ability to apple the skills.	ly knowledge to familia of the course learning ply knowledge to mos			
		Demonstrate substantial co- learning outcomes. Show e and some unfamiliar situation Demonstrate general but in outcomes. Show evidence familiar situations. Apply mo Demonstrate partial but lim	vidence of analytical and critical abilities and ons. Apply effective organizational and press incomplete command of knowledge and s of some analytical and critical abilities and oderately effective organizational and preser ited command of knowledge and skills required.	d logical thinking, and ability to applentational skills. skills required for attaining most of d logical thinking, and ability to approper ntational skills. uired for attaining some of the cour	ly knowledge to familia of the course learning ply knowledge to mos rse learning outcomes			
	С	Demonstrate substantial co- learning outcomes. Show e- and some unfamiliar situation Demonstrate general but in outcomes. Show evidence familiar situations. Apply more Demonstrate partial but lim Show evidence of some col	vidence of analytical and critical abilities and ons. Apply effective organizational and prese incomplete command of knowledge and s of some analytical and critical abilities and oderately effective organizational and presen idited command of knowledge and skills requirement and logical thinking, but with limited and logical thinking, but with limited.	I logical thinking, and ability to apple entational skills. skills required for attaining most of d logical thinking, and ability to appropriational skills. uired for attaining some of the couranalytical and critical abilities. Show	ly knowledge to familia of the course learning ply knowledge to mos rse learning outcomes			
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Other references: M. J. A. Berry & G. S. Linoff: Data Mining Techniques: For Marketing, Sales and Customer Relationship Management (Wiley, 2011, 3rd edition)
Larose, D. T.: Data Mining: Methods and Models (Wiley, 2005)

STAT3616	Advanc	ed SAS programmin	ıg (6 credits)	Academic Yea	ar 2018		
Offering Department	Statistics	& Actuarial Science		Quota	50		
Course Co-ordinator	TBC, Stat	tistics & Actuarial Science	e ()				
Teachers Involved							
Course Objectives	This course aims to equip students, who have taken STAT2603, with a high level of proficiency in SA programming for automation of procedures and data processing in solving complex problems more efficiently.						
Course Contents & Topics							
Course Learning	On succe	ssful completion of this c	course, students should be able to:				
Outcomes	CLO 1	Understand the system of	of SAS and basic programming				
	CLO 2	Use the BY statement for	r parallel processing to aid automati	on			
	CLO 3	Use the output dataset w	rithout printing to OUTPUT windows	for piping idea in automat	ion		
	CLO 4	Use SAS MACRO to dev	elop customized and automated ap	plications			
	CLO 5	Use advanced SAS prog	ramming statements and technique	s to solve complex probler	ns		
Pre-requisites	Pass in S	TAT2601 or STAT2901					
(and Co-requisites and Impermissible combinations)	(Students	are strongly recommend	ded to take STAT2603 prior to taking	g this course.)			
Offer in 2018 - 2019	N Off	er in 2019 - 2020 : 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						
	В	presentational skills. Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the coul learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiand some unfamiliar situations. Apply effective organizational and presentational skills.					
	С	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 motifical abilities and presentational skills.					
	D	Demonstrate partial but limit Show evidence of some coh	ted command of knowledge and skills requi terent and logical thinking, but with limited ar s. Apply limited or barely effective organizati	red for attaining some of the counalytical and critical abilities. Sho			
	Fail	Demonstrate little or no evid of analytical and critical at	lence of command of knowledge and skills no pilities, logical and coherent thinking. Show presentational skills are minimally effective of	equired for attaining the course low very little or no ability to app			
Course Type	Lecture-b	ased course					
Course Teaching	Activitie	s	Details		No. of Hours		
& Learning Activities	Lectures				36		
	Tutorials				12		
	Reading	/ Self study			100		
Assessment Methods and Weighting	Methods		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping		
	Assignme	ents	Coursework (assignments, tutorials, and a class test)	50	CLO 1,2,3,4,5		
	Examina	tion	One 2-hour written examination	50	CLO 1,2,3,4,5		
Required/recommended			anced Programming for SAS 9, Thi				
reading and online materials		r, A.: Carpenters Compl nc., 2004)	ete Guide to the SAS Macro Lang	uage. Second Edition. (N	orth Carolina: SAS		
Course Website	http://mod	odle.hku.hk					

STAT3901	Life contingencies I (6 credits)							Academic Year	2018		
Offering Department	Statistics 8	Statistics & Actuarial Science							Quota		
Course Co-ordinator	Prof K C Yuen, Statistics & Actuarial Science (kcyuen@hku.hk)										
Teachers Involved	(Prof K C Yuen, Statistics & Actuarial Science)										
Course Objectives	The major objectives of this course are to integrate life contingencies into a full probabilistic framework. The tim until-death random variable is the basic building block by which models for life insurances, designed to reduce th 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.									e the	
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	On successful completion of this course, students should be able to:										
Outcomes	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 STAT2902 and STAT2902) or (Pass in STAT2602 and STAT2902)										
Offer in 2018 - 2019	Y 1st	t sem (Offer in 2019	- 2020 : \	1				Examination	Dec	
Grade Descriptors (A+ to F)	A								skills required for a		

	to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organ presentational skills.								
	В	least most of the course oply knowledge to familiar							
	С	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 learn of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply problems. Organization and presentational skills are minimally effective or ineffective.								
Course Type	Lecture-ba	sed course							
Course Teaching	Activities		Details	No. of Hours					
& Learning Activities	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, tutorials, and a class test)	25	CLO 1,2,3,4,5				
	Examination		One 3-hour written examination	CLO 1,2,3,4,5					
Required/recommended	Bowers. N.L., Gerber, H.U., Hickman, J.C., Jones, D.A. & Nesbitt, C.J.: Actuarial Mathematics (1997, 2nd edition Itasca, Illinois: The Society of Actuaries								
reading and									
online materials	Dickson, C.M.D., Hardy, M.R., and Waters, H.R.: Actuarial Mathematics for Life Contingent Risks (Cambridge: Cambridge University Press, 2009)								
Course Website	http://moo	dle.hku.hk							

STAT3902	Statistic	al models (6 cre	Academic Year	r 2018				
Offering Department	Statistics	Quota						
Course Co-ordinator	Dr J F Xu, Statistics & Actuarial Science (xujf@hku.hk)							
Teachers Involved		,Statistics & Actua	, , , ,					
Course Objectives	This course is on the basis of 'STAT2901 Probability and Statistics: Foundation of Actuarial Science'. It will furthe study the concepts and methods of statistics. The course will lay emphasis on the estimation and hypothesi testing, the two major areas of statistical inference. Through the study of this course, students will be equipped wi both quantitative skills and qualitative perceptions essential for making rigorous statistical analysis of data. The course is an approved course for VEE Mathematical Statistics from the Society of Actuaries.							
Course Contents & Topics	Distribution and density of function of random variables; order statistics, central limit theorem, maximum likelihoo estimator (MLE), moment estimator, Bayesian estimator, properties of estimators, limiting properties of MLE confidence interval estimations for normal mean, the difference of two normal means, normal variance, the ratio two normal variances, and large-sample confidence intervals; power function, Neyman-Pearson Lemma, likelihoo ratio test, and goodness of fit test.							
Course Learning	On succes	ssful completion of	this course, students should be able to:					
Outcomes			rtance of sufficient statistic(s) in data redu		nces such as poir			
			ce interval estimation, and testing hypothe					
			lihood estimators of parameters to calcula		imates			
			y to construct confidence intervals of para					
			o test hypotheses associated with one-sa		ormai distributior			
Pre-requisites			es and non-normal distributions with large	e sample sizes				
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.							
Offer in 2018 - 2019	Y 1st	sem Offer in 201	9 - 2020 : 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							
	В	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.							
	С	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	of analytical and crit	no evidence of command of knowledge and skills re ical abilities, logical and coherent thinking. Show on and presentational skills are minimally effective o	very little or no ability to apply				
Course Type	Lecture-ba	ased course						
Course Teaching	Activities	3	Details		No. of Hours			
Learning Activities	Lectures							
	Tutorials				12			
	Reading / Self study				100			
Assessment Methods and Weighting	Methods		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mappir			
	Assignments		Coursework (assignments, tutorials, and a class test)	25	CLO 1,2,3,4			
			luloriais, and a class lest)					

reading and online materials	2004, 7th edition) Hogg R. V., McKean J. W. & Craig A. T.: Introduction to Mathematical Statistics (Pearson Prentice Hall, 2005, 6th edition)
	Arnold S. F.: Mathematical Statistics (Prentice-Hall, 1990) Larsen R. J. and Marx M. L.: An Introduction to Mathematical Statistics and Its Applications (Pearson International
	Edition, 4th edition)
Course Website	http://moodle.hku.hk

STAT3903	Stochas	tic models (6 cre	edits)	Academic Yea	r 2018				
Offering Department	Statistics	Quota							
Course Co-ordinator	Prof J J F Yao, Statistics & Actuarial Science (jeffyao@hku.hk)								
Teachers Involved	(Prof J J F Yao, Statistics & Actuarial Science)								
Course Objectives			in stochastic processes						
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	On successful completion of this course, students should be able to:								
Outcomes	CLO 1	apply the conditionin	ig method to calculate the mean and pro	obability					
	CLO 2	understand the esse	ntials of Markov chains, the Poisson pro	ocess, and Brownian motion	1				
	CLO 3	understand how stoo	chastic models can be applied to the stu	ıdy 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.								
Offer in 2018 - 2019	Y 2nd	sem Offer in 2019	9 - 2020 : Y	Examination	May				
Grade Descriptors (A+ to F)	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.								
	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.								
	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.								
Course Type	Lecture-ba	ased course							
Course Teaching	Activities	3	Details	Details					
& Learning Activities	Lectures			36					
	Tutorials								
	Reading / Self study				100				
Assessment Methods and Weighting	Methods		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping				
	Assignments		Coursework (assignments, tutorials, and a class test)	25 75	CLO 1,2,3				
	Examinat	CLO 1,2,3							
Required/recommended reading and conline materials	d S. M. Ross: Introduction to Probability Models (9th edition)								
Course Website	la 44 / /	dle.hku.hk							

STAT3904	Corpo	rate finance for actuarial science (6 credits)	cademic Year	2018					
Offering Department	Statistic	cs & Actuarial Science Q	uota						
Course Co-ordinator	Dr D Le	Dr D Lee, Statistics & Actuarial Science (leedav@hku.hk)							
Teachers Involved	(Dr D Le	(Dr D Lee, Statistics & Actuarial Science)							
Course Objectives	This course is designed for actuarial science students to receive VEE Corporate 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, Markowitz mean-variance analysis, capital asset pricing model, weighted average cost of capital, market efficiency, capital structure and dividend policy, financial leverage and firm value, and option pricing models.								
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						
	CLO 7 calculate the value of options using the binomial option pricing model						
Pre-requisites (and Co-requisites and Impermissible combinations)	[(Pass in ACCT1101 and STAT2902) or (Pass in STAT3610 and STAT3615)]; and Not for students who have passed in FINA1310, or have already enrolled in this course.						
Offer in 2018 - 2019	Y 2nd	Y 2nd sem Offer in 2019 - 2020 : Y Examination May					
Grade Descriptors (A+ to F)	Α	learning outcomes. Show s	stery at an advanced level of extensive kno trong analytical and critical abilities and logic vide range of complex, familiar and unfamili	al thinking, with evidence of ori	iginal thought, and ability		
	В	learning outcomes. Show e	ommand of a broad range of knowledge and vidence of analytical and critical abilities and lons. Apply effective organizational and preser	logical thinking, and ability to ap			
	С	outcomes. Show evidence	incomplete command of knowledge and ski of some analytical and critical abilities and oderately effective organizational and present	logical thinking, and ability to a			
	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.						
		knowledge to solve problem	ns. Apply limited or barely effective organization	onal and presentational skills.			
	Fail	Demonstrate little or no evid of analytical and critical al	ns. Apply limited or barely effective organization dence of command of knowledge and skills re bilities, logical and coherent thinking. Show presentational skills are minimally effective of presentational skills are minimally effective of	equired for attaining the course very little or no ability to ap	learning outcomes. Lack ply knowledge to solve		
Course Type		Demonstrate little or no evid of analytical and critical al	dence of command of knowledge and skills rebilities, logical and coherent thinking. Show	equired for attaining the course very little or no ability to ap	learning outcomes. Lack only knowledge to solve		
		Demonstrate little or no evic of analytical and critical al problems. Organization and ased course	dence of command of knowledge and skills rebilities, logical and coherent thinking. Show	equired for attaining the course very little or no ability to ap	learning outcomes. Lack ply knowledge to solve		
Course Teaching	Lecture-ba	Demonstrate little or no evic of analytical and critical al problems. Organization and ased course	dence of command of knowledge and skills re bilities, logical and coherent thinking. Show I presentational skills are minimally effective of	equired for attaining the course very little or no ability to ap	ply knowledge to solve		
Course Teaching	Lecture-ba	Demonstrate little or no evic of analytical and critical al problems. Organization and ased course	dence of command of knowledge and skills re bilities, logical and coherent thinking. Show I presentational skills are minimally effective of	equired for attaining the course very little or no ability to ap	No. of Hours		
Course Teaching	Lecture-ba Activities Lectures Tutorials	Demonstrate little or no evic of analytical and critical al problems. Organization and ased course	dence of command of knowledge and skills re bilities, logical and coherent thinking. Show I presentational skills are minimally effective of	equired for attaining the course very little or no ability to ap	No. of Hours		
Course Teaching & Learning Activities Assessment Methods	Lecture-ba Activities Lectures Tutorials	Demonstrate little or no evic of analytical and critical al problems. Organization and ased course	dence of command of knowledge and skills re bilities, logical and coherent thinking. Show I presentational skills are minimally effective of	equired for attaining the course very little or no ability to ap	No. of Hours 36 12		
Course Teaching & Learning Activities Assessment Methods	Lecture-ba Activities Lectures Tutorials Reading /	Demonstrate little or no evic of analytical and critical al problems. Organization and assed course	dence of command of knowledge and skills re bilities, logical and coherent thinking. Show d presentational skills are minimally effective of Details	equired for attaining the course very little or no ability to ap or ineffective. Weighting in final	No. of Hours 36 12 100 Assessment Methods		
Course Teaching & Learning Activities Assessment Methods	Lecture-ba Activities Lectures Tutorials Reading / Methods	Demonstrate little or no evic of analytical and critical a problems. Organization and ased course	dence of command of knowledge and skills rebilities, logical and coherent thinking. Show dipresentational skills are minimally effective of the common of th	equired for attaining the course very little or no ability to apprine fective. Weighting in final course grade (%)	No. of Hours 36 12 100 Assessment Methods to CLO Mapping		
Course Type Course Teaching & Learning Activities Assessment Methods and Weighting Required/recommended reading and online materials	Lecture-ba Activities Lectures Tutorials Reading / Methods Assignme Examinat Brealey, F Berk, J. et	Demonstrate little or no evic of analytical and critical al problems. Organization and assed course Self study ents ion A.A. et al.: Principles of 0 al.: Corporate Finance	dence of command of knowledge and skills rebilities, logical and coherent thinking. Show of presentational skills are minimally effective of presentation skills are mi	weighting in final course grade (%) Weighting in final course grade (%)	No. of Hours 36 12 100 Assessment Methods to CLO 1,2,3,4,5,6,7		

STAT3905	Introduc	Introduction to financial derivatives (6 credits) Academic Ye					
Offering Department	Statistics & Actuarial Science Quota						
Course Co-ordinator	Dr K C Ch	Dr K C Cheung, Statistics & Actuarial Science (kccg@hku.hk)					
Teachers Involved	(Dr K C Cheung, Statistics & Actuarial Science)						
Course Objectives	This course aims at providing an understanding of the fundamental concepts of financial derivatives. Emphases						
		are on basic trading and hedging strategies, and the concept of no-arbitrage.					
Course Contents		Derivatives; short-selling; forward contracts; call options; put options; equity-linked CD; spreads and collars					
& Topics	0 0,		and futures; commodity swaps; interest ra	ate swaps; put-call parity.			
Course Learning			of this course, students should be able to:				
Outcomes			ze the definitions of terms commonly used				
	ar	nd swaps	f, profit, and properties of basic derivative of		ds, futures, options		
		•	tive securities can be used as tools to man	nage financial risk			
Pre-requisites		TAT2902; and					
(and Co-requisites			passed in STAT3618, or have already enr				
and Impermissible			passed in FINA2322, or have already enro	olled in this course; and			
combinations)		Actuarial Science)		F	D		
Offer in 2018 - 2019		sem Offer in 20		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.						
	В	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.					
	С	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						
		knowledge to solve	problems. Apply limited or barely effective organizat				
	Fail	Demonstrate little or of analytical and or	problems. Apply limited or barely effective organizat or no evidence of command of knowledge and skills i critical abilities, logical and coherent thinking. Show tition and presentational skills are minimally effective	ional and presentational skills. required for attaining the course w very little or no ability to ap	ow limited ability to app		
Course Type		Demonstrate little or of analytical and or	or no evidence of command of knowledge and skills retrical abilities, logical and coherent thinking. Show	ional and presentational skills. required for attaining the course w very little or no ability to ap	ow limited ability to app		
71		Demonstrate little o of analytical and o problems. Organiza ased course	or no evidence of command of knowledge and skills retrical abilities, logical and coherent thinking. Show	ional and presentational skills. required for attaining the course w very little or no ability to ap	ow limited ability to app		
Course Teaching	Lecture-ba	Demonstrate little o of analytical and o problems. Organiza ased course	or no evidence of command of knowledge and skills in critical abilities, logical and coherent thinking. Show the state of the presentation of the skills are minimally effective	ional and presentational skills. required for attaining the course w very little or no ability to ap	ow limited ability to app learning outcomes. Lac ply knowledge to solv		
Course Teaching	Lecture-ba	Demonstrate little o of analytical and o problems. Organiza ased course	or no evidence of command of knowledge and skills in critical abilities, logical and coherent thinking. Show the state of the presentation of the skills are minimally effective	ional and presentational skills. required for attaining the course w very little or no ability to ap	ow limited ability to app learning outcomes. Lac ply knowledge to solv No. of Hours		
Course Teaching	Lecture-ba Activities Lectures Tutorials	Demonstrate little of analytical and of problems. Organiza ased course	or no evidence of command of knowledge and skills in critical abilities, logical and coherent thinking. Show the state of the presentation of the skills are minimally effective	ional and presentational skills. required for attaining the course w very little or no ability to ap	ow limited ability to applearning outcomes. Lac ply knowledge to solv No. of Hours 36		
Course Type Course Teaching & Learning Activities Assessment Methods and Weighting	Lecture-ba Activities Lectures Tutorials	Demonstrate little of analytical and c problems. Organiza ased course s	or no evidence of command of knowledge and skills in critical abilities, logical and coherent thinking. Show the state of the presentation of the skills are minimally effective	ional and presentational skills. required for attaining the course w very little or no ability to ap	ow limited ability to applearning outcomes. Lac ply knowledge to solv No. of Hours 36 12		
Course Teaching & Learning Activities Assessment Methods	Lecture-ba Activities Lectures Tutorials Reading	Demonstrate little of analytical and coproblems. Organiza ased course s	prince vidence of command of knowledge and skills in critical abilities, logical and coherent thinking. Show attended the control of the critical abilities, logical and coherent thinking. Show attended the control of the critical skills are minimally effective. Details	ional and presentational skills. required for attaining the course we very little or no ability to apor ineffective. Weighting in final	ow limited ability to applearning outcomes. Lac ply knowledge to solv No. of Hours 36 12 100 Assessment Methods		

reading and online materials		
Course Website	http://moodle.hku.hk	

STAT3906	Risk the	eory I (6 credits)		Academic Yea	ar 2018		
Offering Department	Statistics & Actuarial Science Quota						
Course Co-ordinator	Dr D Lee	D Lee, Statistics & Actuarial Science (leedav@hku.hk)					
Teachers Involved		Dr D Lee,Statistics & Actuarial Science)					
Course Objectives	Risk theo	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	Severity models; frequency models; collective risk models; coverage modifications; risk measures.					
Course Learning	On succe	On successful completion of this course, students should be able to:					
Outcomes	е	xpectation of the total cl		,			
		stimate the premium of mounts made in previou	a policyholder and the total claim s years	amounts using the inform	nation of the claim		
	CLO 3 c	alculate some commonly	y used risk measures and explain the	eir 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					
Offer in 2018 - 2019	N Of	fer in 2019 - 2020 : Y		Examination			
Grade Descriptors (A+ to F)	A	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.					
	В	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 familial and some unfamiliar situations. Apply effective organizational and presentational skills.					
	С						
	D						
	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.						
Course Type	Lecture-b	ased course	· · · · · · · · · · · · · · · · · · ·				
Course Teaching	Activitie	s	Details		No. of Hours		
& Learning Activities	Lectures				36		
	Tutorials				12		
	Reading / Self study				100		
Assessment Methods and Weighting	Methods	S	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping		
	Assignm	ents	Coursework (assignments, tutorials, and a class test)	25	CLO 1,2,3		
	Examina	tion	One 3-hour written examination	75	CLO 1,2,3		
Required/recommended reading and online materials	Klugman 2012, 4th		Willmot G. E.: Loss Models: From	Data to Decisions (John	Wiley & Sons, Inc.		
Course Website	http://mo	odle.hku.hk					

STAT3907	Linear n	Academic Year	2018				
Offering Department	Statistics	Statistics & Actuarial Science Quota					
Course Co-ordinator	Dr G Li, S	Dr G Li, Statistics & Actuarial Science (gdli@hku.hk)					
Teachers Involved	(Dr G Li,S	tatistics & Actuarial Science)					
Course Objectives		This course deals with applied statistical methods of linear models and investigates various forecasting proceduring using linear models and time series analysis.					
Course Contents & Topics		n and multiple linear regression; predicting; generalised lineassive, moving average, autoregressive-moving average and integ					
Course Learning	On succe	ssful completion of this course, students should be able to:					
Outcomes	CLO 1	fit a simple or multiple linear regression model to real data					
	CLO 2	CLO 2 do ANOVA analysis					
	CLO 3 fit a generalized linear model to the real data						
	CLO 4 identify and fit a suitable AR, MA or ARMA model to real data						
	CLO 5 perform residual analysis						
	CLO 6 do forecasting with these fitted models						
Pre-requisites	Pass in STAT2602 or STAT3902, or already enrolled in this course; and						
(and Co-requisites	Not for stu	idents who have passed in STAT3600, or have already enrolled	in this course; and				
and Impermissible		idents who have passed in STAT4601, or have already enrolled					
combinations)	Not for students who have passed in ECON2280, or have already enrolled in this course; and						
	For BSc(A	Actuarial Science) students only.					
Offer in 2018 - 2019	Y 2nd	I sem Offer in 2019 - 2020 : Y	Examination	May			
Grade Descriptors (A+ to F)	A	Demonstrate thorough mastery at an advanced level of extensive knowledge learning outcomes. Show strong analytical and critical abilities and logical thir to apply knowledge to a wide range of complex, familiar and unfamiliar sitt presentational skills.	nking, with evidence of origina	al thought, and ability			
	В	Demonstrate substantial command of a broad range of knowledge and skills learning outcomes. Show evidence of analytical and critical abilities and logica					

		and some unfamiliar situatio	ns. Apply effective of	rganizational and presen	tational skills.			
	С	Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course lear outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to r 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 evid of analytical and critical at	monstrate little or no evidence of command of knowledge and skills required for attaining the course learning analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply kno blems. Organization and presentational skills are minimally effective or ineffective.					
Course Type	Lecture-ba	ased course		·				
Course Teaching	Activities		Details	Details				
& Learning Activities	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 tutorials, and a	(assignments, class test)	25	CLO 1,2,3,4,5,6		
	Examinat	ion	One 3-hour wri	tten examination	75	CLO 1,2,4,5,6		
Required/recommended reading and online materials	Abraham	. Pindyck & D. L. Rubinfeld: Econometric Models and Economic Forecasts (McGraw-Hill, 1998, 4th edition) ham & J. Ledolter: Statistical Methods for Forecasting (John Wiley & Sons, 2005, 2nd edition) . P. Box, G. M. Jenkins & G. Reinsel: Time Series Analysis: Forecasting and Control (Prentice Hall, 1994, 3)						
		oodle.hku.hk						

STAT3908	Credibili	ear 2018					
Offering Department		& Actuarial Science		Quota			
Course Co-ordinator		r A G Benchimol, Statistics & Actuarial Science (benchi@hku.hk)					
Teachers Involved	(Dr A G Benchimol, Statistics & Actuarial Science)						
Course Objectives	Credibility calculation	(Dr K C Cheung, Statistics & Actuarial Science) Credibility is an example of a statistical estimate. The idea of credibility is very useful in premium calculation. Insurance loss varies according to the business nature, what distribution should be used to fit a particular loss is both of theoretical interest and practical importance. This course covers important actuarial and					
Course Contents & Topics	Limited flu construction determinate	uctuation approach; Buon and selection of pa	uhlman's approach; Bayesian apprametric models; properties and of yof a fitted model; comparison of	estimation of failure time ar	nd loss distributions		
Course Learning			course, students should be able to	D:			
Outcomes	CLO 1 ap	ply limited fluctuation (classical) credibility including crite	ria for both full and partial cr	edibility		
	CLO 2 pe	erform Bayesian analys	is using both discrete and continue	ous models	•		
		pply Buhlmann and Bul odel	hlmann-Straub models and under	stand the relationship of the	ese to the Bayesian		
	CLO 4 ap	ply conjugate priors in	Bayesian analysis and in particula	ar the Poisson-gamma mode	el .		
	CLO 5 ap	ply empirical Bayesian	methods in the nonparametric an	d semiparametric cases			
	CLO 6 co	nstruct and select emp	irical models	•			
	CLO 7 de	termine the acceptabili	ity of a fitted model and/or compar	e models			
Pre-requisites (and Co-requisites and Impermissible combinations)		TAT2602 or STAT3902					
Offer in 2018 - 2019			r in 2019 - 2020 : Y	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.						
	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 ev of analytical and critical a	idence of command of knowledge and skil abilities, logical and coherent thinking. S d presentational skills are minimally effecti	Ils required for attaining the course how very little or no ability to ap			
Course Type	Lecture-ba	ased course					
Course Teaching	Activities	3	Details		No. of Hours		
& Learning Activities	Lectures				36		
	Tutorials				12		
	Reading /	Self study			100		
Assessment Methods and Weighting	Methods		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping		
	Assignme	ents	Coursework (assignments, tutorials, and a class test)	25	CLO 1,2,3,4,5,6,7		
	Examinati	ion	One 3-hour written examination	75	CLO 1,2,3,4,5,6,7		
Required/recommended reading and online materials	Klugman S edition).	S. A., Panjer H. H., & V	Villmot G. E.: Loss Models: From [Data to Decisions (John Wile	ey & Sons, 2010, 4th		

Course Website http://moodle.hku.hk

STAT3909	Life contingencies II (6 credits) Academic Ye				Academic Year	2018	
Offering Department	Statistics 8	Quota					
Course Co-ordinator	Dr D Lee,	Or D Lee, Statistics & Actuarial Science (leedav@hku.hk)					
Teachers Involved	(Dr D Lee, Statistics & Actuarial Science)						
Course Objectives	This course aims at introducing some topics in non-traditional 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: future loss random variable; policy values; expenses and asset shares; multiple state models and their applications; profit testing.					
Course Learning	On succes	ssful completion of	this course, students should be	able to:			
Outcomes	CLO 1 ca	Iculate policy value	es for life insurances and annuit	ties			
		corporate expense surances and annu	es in gross premium and calcul uities	ate policy values ba	ased on the gross	premium for life	
	CLO 3 ca	Iculate probabilitie	s and actuarial present values ι	under the multiple st	ate model framew	ork	
		alyze multiple dec crements	rement models and calculate the	ne life insurances ar	nd annuities in mo	dels with multiple	
	CLO 5 an	alyze multiple life	models and calculate the life ins	surances and annuit	ies in models with	multiple lives	
	CLO 6 ex	plain the concept	of profit testing				
Pre-requisites	Pass in S1	TAT3901, or alread	dy enrolled in this course; and				
(and Co-requisites and Impermissible combinations)	For BSc(A	ctuarial Science) s					
Offer in 2018 - 2019	Y 2nd		19 - 2020 : Y		Examination	May	
Grade Descriptors (A+ to F)	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the cours learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and abilit to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational an presentational skills. Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the cours 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.					al thought, and ability e organizational and st most of the course	
	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 of analytical and cri	no evidence of command of knowledge tical abilities, logical and coherent thi onal and presentational skills are minim	e and skills required for a inking. Show very little	ttaining the course lea or no ability to apply		
Course Type	Lecture-ba	ased course		•			
Course Teaching	Activities	.	Details			No. of Hours	
& Learning Activities	Lectures					36	
	Tutorials					12	
	Reading /	Self study				100	
Assessment Methods and Weighting	Methods	·	Details		nting in final se grade (%)	Assessment Methods to CLO Mapping	
	Assignments		Coursework (assignn tutorials, and a class tes		25	CLO 1,2,3,4,5,6	
	Examinati	ion	One 3-hour written exam	nination	75	CLO 1,2,3,4,5,6	
Required/recommended reading and online materials	,		Il Mathematics (Society of Actual larial Mathematics for Life Con	, ,	,	Press, 2013, 2nd	

Offering Department Course Co-ordinator Teachers Involved Course Objectives Course Contents Topics Statistics & Prof H L Ya (Prof H L Ya This course estimation, ideas and m Option mar time option-volatility; the	economics I (6 credits) Actuarial Science ng, Statistics & Actuarial Science (hlyang@hku.hk) ang,Statistics & Actuarial Science) e is a basic course on the derivative market. The course cove and Black-Scholes formula and its variations. The course also incelethods.		,
Teachers Involved Course Objectives This course estimation, ideas and n Course Contents & Topics Option mar time option-volatility; the	ang,Statistics & Actuarial Science) e is a basic course on the derivative market. The course coverand Black-Scholes formula and its variations. The course also inc		,
Course Objectives This course estimation, ideas and m Course Contents & Topics Option mar time option-volatility; the	e is a basic course on the derivative market. The course cov- and Black-Scholes formula and its variations. The course also inc		,
course Contents Topics estimation, ideas and n Option mar time option- volatility; the	and Black-Scholes formula and its variations. The course also inc		,
& Topics time option- volatility; the			isk management
Course Learning On success	ket; European and American options; conditional expectation and pricing theory; binomial model and its Greeks; true probabilities vs. as Black-Scholes formula; implied volatility; option Greeks; market-m	risk-neutral probab	oilities; estimating
Outcomes CLO 1 calc CLO 2 und CLO 3 und con CLO 4 und imp CLO 5 und	Iful completion of this course, students should be able to: culate option price using binomial tree erstand the risk neutral probability erstand basic probability theory, include probability space, rando ditional expectation and discrete time martingale erstand the Black-Scholes formula and its assumptions, the op lied volatility erstand the hedging strategies and portfolio, market-maker risk, sel erstand exotic options	tion Greeks, option	n elasticity, and
Pre-requisites Pass in STA Not for stud	AT2602 or STAT3902; and ents who have passed in STAT3618, or have already enrolled in thi ents who have passed in FINA2322, or have already enrolled in this		
Offer in 2018 - 2019 Y 1st se			

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.						
	В	•					
	С		of some analytical a	nd critical abilities and	ills required for attaining most logical thinking, and ability to a ational skills.		
	D	Demonstrate partial but limit Show evidence of some coh	ed command of known and logical things	owledge and skills requi nking, but with limited ar	red for attaining some of the conalytical and critical abilities. Shonal and presentational skills.		
	Fail		ilities, logical and	coherent thinking. Show	equired for attaining the course very little or no ability to apor ineffective.		
Course Type	Lecture-ba	ased course					
Course Teaching	Activities		Details			No. of Hours	
& Learning Activities	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 tutorials, and a	(assignments, class test)	25	CLO 1,2,3,4,5,6	
	Examination		One 3-hour wri	tten examination	75	CLO 1,2,3,4,5,6	
Required/recommended reading and		McDonald: Derivatives Notes on conditional exped			4		
online materials	John Hull:	Options, Futures and ot	her Derivatives	(2008, 7th edition)			
Course Website	http://moo	dle.hku.hk					

STAT3911	Financia	al economics II (6 credits)	Academic Ye	ar 2018	
Offering Department	Statistics					
Course Co-ordinator	Prof H L	Yang, Statistics & Ad	ctuarial Science (hlyang@hku.hk)			
Teachers Involved	(Prof H L	Yang, Statistics & Ad	ctuarial Science)			
Course Objectives		This course is an advanced course on the option pricing theory. The course covers Black-Scholes equation and stochastic calculus, and interest models.				
Course Contents & Topics	Sharpe ra	Brownian motion; introduction to stochastic calculus; arithmetic and geometric Brownian motion; Ito formul Sharpe ratio and risk premium; Black-Scholes equation; risk-neutral stock-price process and option pricin option's elasticity and volatility; Vasicek, Cox-Ingersoll-Ross, and Black-Derman-Toy models; delta-hedging founds and the Sharpe-ratio equality constraint; Black's model; options on zero-coupon bonds; interest-rate calculates.				
Course Learning	On succe	ssful completion of t	his course, students should be able to:			
Outcomes	CLO 1	understand Brown	ian motion and its properties			
	CLO 2	understand the Ito	calculus and Ito formula			
	CLO 3	understand the Bla	ack-Scholes model and option pricing th	eory		
	CLO 4	understand the de	Ita hedging and some basic risk manag	ement methods		
	CLO 5	understand some	basic interest rate models			
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in M	IATH3603 or STAT3	603 or STAT3903 or STAT3910			
Offer in 2018 - 2019	Y 2nd	d sem Offer in 201	9 - 2020 : Y	Examination	May	
Grade Descriptors (A+ to F)	Α	Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the cours learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and abilit to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational an presentational skills.				
	В	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 familia and some unfamiliar situations. Apply effective organizational and presentational skills.				
	С	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					
Course Type	Lecture-b	ased course				
Course Teaching	Activities	s	Details		No. of Hours	
& Learning Activities	Lectures					
	Tutorials				12	
	Reading	/ Self study			100	
Assessment Methods and Weighting	Methods	•	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping	
	Assignme	ents	Coursework (assignments, tutorials, and a class test)	25	CLO 1,2,3,4,5	
	Examinat	tion	One 3-hour written examination	75	CLO 1,2,3,4,5	
Required/recommended reading and online materials	John Hull Alison Eth	: Options, Futures a neridge: A Course in	ves Markets (2nd edition), Chapters 20, nd Other Derivatives (2008, 7th edition) Financial Calculus (2002) alculus for Finance II Continuous-Time I			

Course Website http://moodle.hku.hk

STAT3951	Further t	topics in continge	ncies (6 credits)	Academic Year	2018			
Offering Department	Statistics 8	atistics & Actuarial Science Quota						
Course Co-ordinator	Dr D Lee,	or D Lee, Statistics & Actuarial Science (leedav@hku.hk)						
Teachers Involved	(Dr D Lee,	Dr D Lee, Statistics & Actuarial Science)						
Course Objectives	This course covers more advanced stochastic models and actuarial techniques used in the field of life and non-life insurance.							
Course Contents & Topics	application	Fopics cover further analysis of the multiple state model; unit-linked contracts; cost of guarantees and options applications of actuarial techniques to a wide range of insurance problems; equity-linked life-contingent insurance products and valuation of these products; simple ruin models for non-life insurance portfolios.						
Course Learning			course, students should be able to:	•				
Outcomes	CLO 1 obtain transition probabilities in continuous-time multiple state models and evaluate ex dependent cash flows							
	CLO 2 ap	ply the Esscher transf	orm on probability distributions and s	tochastic processes				
	CLO 3 de	scribe equity-linked in	surance products and value them usi	ng risk-neutral pricing				
	CLO 4 va	lue equity-linked death	benefits via the discounted density	function				
		preciate the role of tourance	he expected discounted penalty fu	nction in simple risk proce	esses for non-life			
	CLO 6 ev	aluate ruin probabilitie	s and related quantities for simple ris	k processes				
Pre-requisites	Pass in S7	ΓΑΤ3909; and						
(and Co-requisites			nrolled in this course; and					
and Impermissible	For BSc(A	ctuarial Science) stud	ents only.					
combinations)								
Offer in 2018 - 2019		sem Offer in 2019 - :		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 collearning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and a to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational presentational skills.						
	В	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.						
	С	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 appl 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.							
Course Type	Lecture-ba	ased course						
Course Teaching	Activities		Details		No. of Hours			
& Learning Activities	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, tutorials, and a class test)	25	CLO 1,2,3,4,5,6			
	Examinati	ion	One 3-hour written examination	75	CLO 1,2,3,4,5,6			
Required/recommended	Bowers, N	. L. et al.: Actuarial Ma	athematics (Society of Actuaries, 199	7, 2nd ed.)				
reading and			nematics for Life Contingent Risks (C					
online materials			cal Core Reading (Institute of Actuari surance products and simple dividen					
Course Website	http://moo	dle.hku.hk						

STAT3952	Investment and asset management (6 credits)	Academic Year	2018				
Offering Department	Statistics & Actuarial Science	Quota					
Course Co-ordinator	TBC, Statistics & Actuarial Science ()						
Teachers Involved	(TBC,Statistics & Actuarial Science)						
Course Objectives	The main objective of this course is to introduce students to some of the methods and procedures commonly used in the management of an investment portfolio. Emphasis will be placed on methods to tackle problems faced by insurance industry such as investment strategy formulation and interest rate risk management.						
Course Contents & Topics	This course provides an overview on the problems faced by actuaries when applying fundamental actuarial concepts to investment practice. This course will cover the following topics: Investment Management Process, Asset Allocation, Managing Fixed Income Portfolios and Performance Measurement.						
Course Learning	On successful completion of this course, students should be able to:						
Outcomes	CLO 1 explain how an investment policy and an investment strategy can help manage risk						
	CLO 2 identify the obligations of a fiduciary in managing investment portfolios						
	CLO 3 describe how to select an investment strategy for an individual and the particular issues influencing investment strategies for institutional investors						
	CLO 4 explain principles of risk-based capital management						
	CLO 5 describe asset allocation strategies that can be used to construct an asset portfolio						
	CLO 6 identify and describe financial and non-financial risks faced by an entity						
	CLO 7 define risk metrics to quantify major types of risk exposure, apply ALM principles to the establishment of investment policy and strategy						
	CLO 8 select or build a benchmark for a given portfolio or portfolio management style, describe and assess performance measurement methodologies for investment portfolios						
Pre-requisites	Pass in STAT3901; and						

(and Co-requisites and Impermissible combinations)		tudents who have passed (Actuarial Science) stude	d in FINA2320, or have already enrolled nts only.	d in this course; and		
Offer in 2018 - 2019	N Of	ffer in 2019 - 2020 : 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.				
	В	learning outcomes. Show e	ommand of a broad range of knowledge and sk vidence of analytical and critical abilities and log ons. Apply effective organizational and presental	ical thinking, and ability to app		
	С	outcomes. Show evidence	incomplete command of knowledge and skills of some analytical and critical abilities and log oderately effective organizational and presentation	ical thinking, and ability to ap		
	D	Demonstrate partial but lim Show evidence of some co	ited command of knowledge and skills required herent and logical thinking, but with limited analy ns. Apply limited or barely effective organizations	for attaining some of the courtical and critical abilities. Show		
	Fail	of analytical and critical a	dence of command of knowledge and skills requibilities, logical and coherent thinking. Show vid presentational skills are minimally effective or in	ery little or no ability to appl		
Course Type	Lecture-b	based course	•			
Course Teaching	Activities		Details	No. of Hours		
& Learning Activities	Lectures			36		
g	Tutorials			12		
	Reading / Self study			100		
Assessment Methods and Weighting	Method		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping	
	Assignm	nents	Assignments, tutorials/example classes, group discussions, project and presentation	50	CLO 1,2,3,4,5,6,7,8	
	Examination		One 2-hour written examination	50	CLO 1,2,3,4,5,6,7,8	
Required/recommended reading and online materials	Z. Bodie, Crouhy, F. J. Fab	D. Babbel & F. J. Fabozzi: Investment Management for Insurers (Frank J. Fabozzi & Assoc., 1999) Z. Bodie, A. Kane, & A. Marcus: Investments (McGraw-Hill, 2005, 7th edition) Crouhy, Galai, & Mark: Risk Management (2001) F. J. Fabozzi: Handbook of Fixed Income Securities (McGraw-Hill, 2005, 7th edition) Litterman: Modern Investment Management: An Equilibrium Approach (2003)				
Course Website		odle.hku.hk	, , , , , , ,	•		
Additional Course Information	Other re Dynamic	ferences: J. L. Maginn, Process (Wiley, 2007, 3	D.L. Tuttle, J.E. Pinto & D.W. McLerd edition) nent of Financial Institutions (2003)	eavey: Managing Invest	ment Portfolios, A	

STAT3953	Fundan	nentals of actu	ıarial practice (6 credits)		Academic Year	2018	
Offering Department	Statistics	& Actuarial Scien	nce		Quota		
Course Co-ordinator	Dr A G B	enchimol, Statistic	cs & Actuarial Science (benchi@h	ku.hk)			
Teachers Involved	(Dr A G E	Benchimol, Statistic	cs & Actuarial Science)				
Course Objectives			ents about the business environme cycle as a framework.	ent and exposes the	m to practical rea	l-world situation	
Course Contents & Topics	Actuary, placed or	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	On succe	On successful completion of this course, students should be able to:					
Outcomes		rovide introductor experiences	ry description of financial security	systems, common	actuarial techniqu	ies and practical	
	CLO 2 d	lescribe actuarial p	practices, principles, approaches,	methods, commona	lities, problems ar	nd solutions	
			ractices across the traditional area				
		CLO 4 explain actuarial practices as applied directly on behalf of financial security system providers or as a consultant to those providers					
	CLO 5 apply actuarial skills in nontraditional and emerging areas of practice						
	CLO 6 provide context for the specific mathematical and technical skills developed in the basic actuarial courses						
	CLO 7 p	repare for the prof	fessional role as an Associate of	the Society of Actuar	ies		
Pre-requisites (and Co-requisites and Impermissible combinations)		STAT3909; and Actuarial Science)) students only.				
Offer in 2018 - 2019	Y 1st	t sem Offer in 20	019 - 2020 : Y		Examination	No Exam	
Grade Descriptors (A+ to F)	A	learning outcomes.	ough mastery at an advanced level of extensions. Show strong analytical and critical abiliting to a wide range of complex, familiar ass.	es and logical thinking, w	ith evidence of origina	al thought, and ability	
	В	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.					
	С						
	D	Demonstrate partial Show evidence of s	al but limited command of knowledge and some coherent and logical thinking, but w	skills required for attaini ith limited analytical and o	ritical abilities. Show I		
	Fail	knowledge to solve problems. Apply limited or barely effective organizational and presentational skills. 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.					

Course Type	Lecture-based course			
Course Teaching	Activities	Activities Details		
& Learning Activities	Lectures			36
	Project work			12
	Reading / Self study			100
Assessment Methods and Weighting	Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
	Presentation	oral presentation	25	CLO 4,5,6
	Project reports	written report	50	CLO 4,5,6,7
	Test	in-class quizzes	25	CLO 1,2,3,4,5,6,7
Required/recommended reading and online materials	Bellis, C., Klugman, S., Sh Cycle (Institute of Actuaries Brown, R.L. and Gottlieb, Insurance (ACTEX Publicat	g Actuarial Practice (Society of Actuepherd, J., and Lyon, R.: Understate of Australia, 2010, 2nd ed.) L.R.: Introduction to Ratemaking tions, Inc., 2007, 3rd ed.) of Enterprise Risk Management: The	anding Actuarial Management: 1 g and Loss Reserving for Pro	perty and Casualty
Course Website	http://moodle.hku.hk	or Emerginee rack Management. Th	10 110/1 Ctop III Badiiledd Mailag	joinione (Trilley, 2011)

STAT3954	Current	topics in actuarial science (6 credits)	Academic Ye	ar 2018			
Offering Department		& Actuarial Science	Quota				
Course Co-ordinator	TBC, Sta	tistics & Actuarial Science ()					
Teachers Involved		V					
Course Objectives	basic car	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		rse covers a full range of topics related to both areas incl 'Legal Thinking.	luding 1) Practical Actua	rial Practice and 2)			
	Insurance	tical Actuarial Practice: It covers the major practical topics e, it covers the full picture of actuarial control cycle incl g and Experience Analysis. For General Insurance, it covers ation.	uding Product Pricing, \	/aluation, Financial			
	changes legal mai course, a	aries' Legal Thinking: This is the 7th year of the course and the intermarket for basic legal and general insurance skills futerials with heavy involvement of actuarial and other general ongside with basic legal research skills and fundamental orm the General Insurance Industry would also infiltrate the country.	or actuaries. Intellectuall ral insurance expertise v l legal thinking. Sharing	y stimulating recent would dominate the			
Course Learning		essful completion of this course, students should be able to:					
Outcomes	CLO 1 h	ave a basic understanding regarding Actuarial Control Cycle nsurance	e from A to Z for Life Insu	rance and General			
	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						
	GLU 3 D	ossess julicamental knowledge of the law of insurance					
		9	roblems				
	CLO 6 c	onduct elementary legal researches when facing with legal p		v involved			
(and Co-requisites and Impermissible	CLO 6 C CLO 7 u Pass in S Pass in S	9		v involved			
(and Co-requisites and Impermissible combinations)	CLO 6 C CLO 7 U Pass in S Pass in S For BSc(A	onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mat STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only.	rix of the facts and the law	v involved			
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019	CLO 6 c CLO 7 u Pass in S Pass in S For BSc(onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mat STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only.	rix of the facts and the law				
Pre-requisites (and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F)	CLO 6 C CLO 7 U Pass in S Pass in S For BSc(A	onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mat STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only.	Examination owledge and skills required for all thinking, with evidence of original to the content of the conte	 attaining all the course ginal thought, and ability			
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	CLO 6 c CLO 7 u Pass in S Pass in S For BSc(onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mat STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only. fer in 2019 - 2020: N Demonstrate thorough mastery at an advanced level of extensive knot learning outcomes. Show strong analytical and critical abilities and logic to apply knowledge to a wide range of complex, familiar and unfamiliar.	Examination owledge and skills required for all thinking, with evidence of oriar situations. Apply highly effect skills required for attaining at I logical thinking, and ability to ap	attaining all the course ginal thought, and ability ctive organizational and east most of the course			
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	CLO 6 CCLO 7 UPass in SPass in SFor BSc(A	onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mat STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only. fer in 2019 - 2020: N Demonstrate thorough mastery at an advanced level of extensive knot learning outcomes. Show strong analytical and critical abilities and logic to apply knowledge to a wide range of complex, familiar and unfamiliar presentational skills. Demonstrate substantial command of a broad range of knowledge and learning outcomes. Show evidence of analytical and critical abilities and and some unfamiliar situations. Apply effective organizational and present Demonstrate general but incomplete command of knowledge and sk outcomes. Show evidence of some analytical and critical abilities and familiar situations. Apply moderately effective organizational and present	Examination owledge and skills required for all thinking, with evidence of oriar situations. Apply highly effer skills required for attaining at I logical thinking, and ability to applicational skills. Ills required for attaining most logical thinking, and ability to a pational skills.	attaining all the course ginal thought, and ability ctive organizational and east most of the course ply knowledge to familiar of the course learning pply knowledge to most			
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	CLO 6 CCLO 7 UPass in SPass in SFor BSc(ABBCC) B C D	onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mat STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only. fer in 2019 - 2020: N Demonstrate thorough mastery at an advanced level of extensive known learning outcomes. Show strong analytical and critical abilities and logic to apply knowledge to a wide range of complex, familiar and unfamiliar presentational skills. Demonstrate substantial command of a broad range of knowledge and learning outcomes. Show evidence of analytical and critical abilities and and some unfamiliar situations. Apply effective organizational and present Demonstrate general but incomplete command of knowledge and skills required in the stream of the	Examination owledge and skills required for all thinking, with evidence of oriar situations. Apply highly effer skills required for attaining at I logical thinking, and ability to ap tational skills. It is a presentational skills. The control of	attaining all the course ginal thought, and ability ctive organizational and east most of the course ply knowledge to familial of the course learning pply knowledge to most urse learning outcomes. ow limited ability to apply			
and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F)	CLO 6 CCLO 7 UPass in SPass in SFor BSc(ABSCABSCABSCABSCABSCABSCABSCABSCABSCABSC	onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mat STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only. fer in 2019 - 2020: N Demonstrate thorough mastery at an advanced level of extensive known learning outcomes. Show strong analytical and critical abilities and logic to apply knowledge to a wide range of complex, familiar and unfamiliar presentational skills. Demonstrate substantial command of a broad range of knowledge and learning outcomes. Show evidence of analytical and critical abilities and and some unfamiliar situations. Apply effective organizational and present Demonstrate general but incomplete command of knowledge and sk outcomes. Show evidence of some analytical and critical abilities and familiar situations. Apply moderately effective organizational and present Demonstrate partial but limited command of knowledge and skills required.	Examination owledge and skills required for at thinking, with evidence of oriar situations. Apply highly effect skills required for attaining at I logical thinking, and ability to aphatomal skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining some of the consultational skills. The provided for attaining the course of the consultation of the course of the	attaining all the course ginal thought, and ability ctive organizational and east most of the course ply knowledge to familial of the course learning pply knowledge to most urse learning outcomes ow limited ability to apply learning outcomes. Lack			
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cand Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching	CLO 6 CCLO 7 UPass in SPass in SFor BSc(ABBCC) B C D Fail	onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mat STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only. fer in 2019 - 2020: N Demonstrate thorough mastery at an advanced level of extensive known learning outcomes. Show strong analytical and critical abilities and logic to apply knowledge to a wide range of complex, familiar and unfamiliar presentational skills. Demonstrate substantial command of a broad range of knowledge and learning outcomes. Show evidence of analytical and critical abilities and and some unfamiliar situations. Apply effective organizational and present Demonstrate general but incomplete command of knowledge and sk outcomes. Show evidence of some analytical and critical abilities and familiar situations. Apply moderately effective organizational and present Demonstrate partial but limited command of knowledge and skills required show evidence of some coherent and logical thinking, but with limited arknowledge to solve problems. Apply limited or barely effective organization of analytical and critical abilities, logical and coherent thinking. Show problems. Organization and presentational skills are minimally effective organization and second course.	Examination owledge and skills required for at thinking, with evidence of oriar situations. Apply highly effect skills required for attaining at I logical thinking, and ability to aphatomal skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining some of the consultational skills. The provided for attaining the course of the consultation of the course of the	attaining all the course ginal thought, and ability ctive organizational and east most of the course ply knowledge to familiar of the course learning pply knowledge to most urse learning outcomes ow limited ability to apply learning outcomes. Lack			
cand Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching	CLO 6 CCLO 7 UPass in SPass in SPass in SFor BSc(NOFA B C D Fail Lecture-t Activitie Lectures	onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mate STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only. fer in 2019 - 2020: N Demonstrate thorough mastery at an advanced level of extensive known learning outcomes. Show strong analytical and critical abilities and logic to apply knowledge to a wide range of complex, familiar and unfamilial presentational skills. Demonstrate substantial command of a broad range of knowledge and learning outcomes. Show evidence of analytical and critical abilities and learning outcomes. Show evidence of analytical and critical abilities and some unfamiliar situations. Apply effective organizational and present Demonstrate general but incomplete command of knowledge and skills required structures. Show evidence of some analytical and critical abilities and familiar situations. Apply moderately effective organizational and present Demonstrate partial but limited command of knowledge and skills required to solve problems. Apply limited or barely effective organization problems. Organization and present and logical thinking, but with limited and command of knowledge and skills required to solve problems. Apply limited or barely effective organization of analytical and critical abilities, logical and coherent thinking. Show problems. Organization and presentational skills are minimally effective organization and presentational skills are minimally effective organization.	Examination owledge and skills required for at thinking, with evidence of oriar situations. Apply highly effect skills required for attaining at I logical thinking, and ability to aphatomal skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining some of the consultational skills. The provided for attaining the course of the consultation of the course of the	attaining all the course ginal thought, and ability ctive organizational and east most of the course ply knowledge to familiar of the course learning pply knowledge to most urse learning outcomes ow limited ability to apply learning outcomes. Lack ply knowledge to solve			
and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching	CLO 6 CCLO 7 UPass in SPass in SPass in SFor BSc(JO APA APA ACTIVITIES TUTORIALS TO SECTION APPROVED THE ACTIVITIES TUTORIALS TUTORIALS TUTORIALS TO SECTION APPROVED THE ACTIVITIES TUTORIALS TUTOR	onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mat STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only. fer in 2019 - 2020: N Demonstrate thorough mastery at an advanced level of extensive known learning outcomes. Show strong analytical and critical abilities and logic to apply knowledge to a wide range of complex, familiar and unfamilis presentational skills. Demonstrate substantial command of a broad range of knowledge and learning outcomes. Show evidence of analytical and critical abilities and and some unfamiliar situations. Apply effective organizational and present Demonstrate general but incomplete command of knowledge and sk outcomes. Show evidence of some analytical and critical abilities and familiar situations. Apply moderately effective organizational and present Demonstrate partial but limited command of knowledge and skills requise Show evidence of some coherent and logical thinking, but with limited and knowledge to solve problems. Apply limited or barely effective organization Demonstrate little or no evidence of command of knowledge and skills requised to solve problems. Apply limited or barely effective organization Demonstrate little or no evidence of command of knowledge and skills reference of command of knowledge and skill	Examination owledge and skills required for at thinking, with evidence of oriar situations. Apply highly effect skills required for attaining at I logical thinking, and ability to aphatomal skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining some of the consultational skills. The provided for attaining the course of the consultation of the course of the	attaining all the course ginal thought, and ability ctive organizational and east most of the course ply knowledge to familia of the course learning pply knowledge to most urse learning outcomes ow limited ability to apply learning outcomes. Lack ply knowledge to solve			
cand Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Course Type Course Teaching	CLO 6 CCLO 7 UPass in SPass in SPass in SFor BSc(JO APA APA ACTIVITIES TUTORIALS TO SECTION APPROVED THE ACTIVITIES TUTORIALS TUTORIALS TUTORIALS TO SECTION APPROVED THE ACTIVITIES TUTORIALS TUTOR	onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mate STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only. fer in 2019 - 2020: N Demonstrate thorough mastery at an advanced level of extensive known learning outcomes. Show strong analytical and critical abilities and logic to apply knowledge to a wide range of complex, familiar and unfamilial presentational skills. Demonstrate substantial command of a broad range of knowledge and learning outcomes. Show evidence of analytical and critical abilities and learning outcomes. Show evidence of analytical and critical abilities and some unfamiliar situations. Apply effective organizational and present Demonstrate general but incomplete command of knowledge and skills required structures. Show evidence of some analytical and critical abilities and familiar situations. Apply moderately effective organizational and present Demonstrate partial but limited command of knowledge and skills required to solve problems. Apply limited or barely effective organization problems. Organization and present and logical thinking, but with limited and command of knowledge and skills required to solve problems. Apply limited or barely effective organization of analytical and critical abilities, logical and coherent thinking. Show problems. Organization and presentational skills are minimally effective organization and presentational skills are minimally effective organization.	Examination owledge and skills required for at thinking, with evidence of oriar situations. Apply highly effect skills required for attaining at I logical thinking, and ability to aphatomal skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining some of the consultational skills. The provided for attaining the course of the consultation of the course of the	attaining all the course ginal thought, and ability ctive organizational and east most of the course ply knowledge to familia of the course learning pply knowledge to most urse learning outcomes ow limited ability to apply learning outcomes. Lack ply knowledge to solve No. of Hours 36			
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	CLO 6 CCLO 7 UPass in SPass in SPass in SFor BSc(JO APA APA ACTIVITIES TUTORIALS TO SECTION APPROVED THE ACTIVITIES TUTORIALS TUTORIALS TUTORIALS TO SECTION APPROVED THE ACTIVITIES TUTORIALS TUTOR	onduct elementary legal researches when facing with legal p nderstand the basic elements of a routine judgment, the mate STAT3901, or already enrolled in this course; or STAT3909, or already enrolled in this course; and Actuarial Science) students only. fer in 2019 - 2020: N Demonstrate thorough mastery at an advanced level of extensive known learning outcomes. Show strong analytical and critical abilities and logic to apply knowledge to a wide range of complex, familiar and unfamiliar presentational skills. Demonstrate substantial command of a broad range of knowledge and learning outcomes. Show evidence of analytical and critical abilities and and some unfamiliar situations. Apply effective organizational and present Demonstrate general but incomplete command of knowledge and sking familiar situations. Apply moderately effective organizational and present Demonstrate partial but limited command of knowledge and skills requised to solve problems. Apply limited or barely effective organization and present Demonstrate little or no evidence of command of knowledge and skills of analytical and critical abilities, logical and coherent thinking. Show problems. Organization and presentational skills are minimally effective organization and presentational skills are minimally effective organizations. Details	Examination owledge and skills required for at thinking, with evidence of oriar situations. Apply highly effect skills required for attaining at I logical thinking, and ability to aphatomal skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining most logical thinking, and ability to a pational skills. The provided for attaining some of the consultational skills. The provided for attaining the course of the consultation of the course of the	attaining all the course ginal thought, and ability ctive organizational and east most of the course ply knowledge to familial of the course learning pply knowledge to most urse learning outcomes. but limited ability to apply knowledge to solve No. of Hours 36 12			

STAT3955	Survival	analysis (6 credits)			Academic Yea	2018
Offering Department	Statistics 8	Actuarial Science			Quota	
Course Co-ordinator	Dr J F Xu,	Statistics & Actuarial So	cience (xujf@hk	(u.hk)		
Teachers Involved	(Dr J F Xu, Statistics & Actuarial Science)					
Course Objectives	This course is concerned with how models which predict the survival pattern of humans or other entities are established. This exercise is sometimes referred to as survival-model construction.					
Course Contents & Topics	include: th commonly survival dis from possi kernel den means of t	e introduction of some used parametric survivi stribution by maximum bly censored samples sity estimator or the Ra	important basical models; conclikelihood estimely means of the manning of the manning of the means of the control of the mean of the means of the me	c quantities like the cepts of censoring a lation method; nonpute Kaplan-Meier esestimator and compic regression mode	models will be studied. To a hazard function and survivand/or truncation; parametric parametric estimation, the Nelson-Aalen carisons of k independent suls; Cox's semiparametric pr	val function; some c estimation of the survival functions estimator; and the rvival functions by
Course Learning	-		•			
Outcomes	On successful completion of this course, students should be able to: CLO 1 acquire a clear understanding of the nature of failure time data or survival data, a generalization concept of death and life CLO 2 perform estimation for some commonly used survival models under different types of					
	me	echanisms				es of censoring
		alyze survival data using			lional nazaros model ate multivariate survival data	1
Pre-requisites		AT3902, or already enr			ate multivariate survival data	
(and Co-requisites and Impermissible combinations)		AT3600 or STAT3901	onea III uns cod	iise, oi		
Offer in 2018 - 2019	Y 2nd	sem Offer in 2019 - 2	020 : 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.					
Course Type	Lecture-ba	sed course				
Course Teaching	Activities		Details			No. of Hours
& Learning Activities	Lectures					36
	Tutorials					12
	_	Self study				100
Assessment Methods and Weighting	Methods		Details		Weighting in final course grade (%)	Assessment Methods to CLO Mapping
	Assignments		Coursework tutorials, and a	(assignments, a class test)	25	CLO 1,2,3,4
	Examinati	on	One 3-hour wi	ritten examination	75	CLO 1,2,3,4
Required/recommended reading and online materials	Hosmer, D 1999)		.: Applied Survi	ival Analysis: Regre	Hall, 1984) ession Modeling of Time to s for Censored and Truncat	. ,
	Verlag, Ne	w York, 2005, 2nd ed.)		<u> </u>		
Course Website	http://mood	dle.hku.hk				

STAT3956	Pension funds and pension mathematics (6 credits)	Academic Year	2018				
Offering Department	Statistics & Actuarial Science	Quota					
Course Co-ordinator	Prof G Ma, Statistics & Actuarial Science (gma328@hku.hk)						
Teachers Involved	(Prof G Ma, Statistics & Actuarial Science)						
Course Objectives		This course covers the basics of pension plan design and pension fund management, as well as the fundamentals of pension plan valuations using different actuarial cost methods. The students will be introduced to the application of actuarial valuation techniques to the funding and accounting of pension plans.					
Course Contents & Topics		The following topics will be covered: Fundamentals of private pension plans; pricing and valuation of pension obligations; actuarial cost methods and their effects on cost patterns; selection of actuarial assumptions; principles					
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 calculate the normal cost and actuarial liabilities using different actuarial cost methods CLO 3 perform gain and loss analyses for pension valuations CLO 4 select appropriate assumptions and methods for funding or accounting purposes CLO 5 interpret the valuation results presented in actuarial valuation reports CLO 6 understand the principles of asset and liability modeling as related to pension plans						
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3909; and For BSc(Actuarial Science) students only.						

Offer in 2018 - 2019	Y 1st	sem Offer in 2019 - 20		Examination	Dec		
Grade Descriptors (A+ to F)	Α	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.					
	В	learning outcomes. Show ev	mmand of a broad range of knowledge and ridence of analytical and critical abilities and ons. Apply effective organizational and preser	logical thinking, and ability to ap			
	С	outcomes. Show evidence	ncomplete command of knowledge and sk of some analytical and critical abilities and derately effective organizational and present	logical thinking, and ability to a			
	D	Demonstrate partial but limi Show evidence of some coh	ted command of knowledge and skills requi herent and logical thinking, but with limited ar s. Apply limited or barely effective organization	red for attaining some of the conalytical and critical abilities. Sh			
	Fail	Demonstrate little or no evid of analytical and critical at	dence of command of knowledge and skills rubilities, logical and coherent thinking. Show presentational skills are minimally effective of	equired for attaining the course very little or no ability to ap			
Course Type	Lecture-b	ased course					
Course Teaching	Activitie	S	Details		No. of Hours		
Learning Activities	Lectures			36			
· ·	Tutorials				12		
	Reading	/ Self study			100		
Assessment Methods and Weighting	Methods	,	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping		
	Assignme	ents	Coursework (assignments, tutorials, and a class test)	25	CLO 1,2,3,4,5,6		
	Examina	tion	One 3-hour written examination	75	CLO 1,2,3,4,6		
Required/recommended	Arthur W.	Anderson: Pension Matl	hematics for Actuaries (2006, 3rd ed	dition).			
reading and online materials	McGill, D.M., Brown, K.N., Haley, J.J., Schieber, S.J.: Fundamentals of Private Pensions (2010, 9th Edition) William H. Aitken: Problem-Solving Approach to Pension Funding and Valuation, (2nd edition). Morneau Sobeco: Handbook of Canadian Pension & Benefit Plans (2008, 14th Edition) Actuarial Standard of Practice No. 27, Selection of Economic Assumptions for Measuring Pension Obligations Actuarial Standard of Practice No. 35, Selection of Demographic and Other Noneconomic Assumptions Measuring Pension Obligations Actuarial Standard of Practice No. 44, Selection and Use of Asset Valuation Methods for Pension Valuations David Farber, ASA, EA, MSPA, William Farrimond, FSPA, Duane Mayer, MSPA, George Matray, FSPA: Actu Cost Methods-A Review, 3rd Edition, 1999, ACTEX Publications 2001 Supplement to Actuarial Cost Methods-A Review, ACTEX Publications Ma C M George: Fundamentals of Pension Funds and Pension Mathematics. Peking University Press (2015)				ion Obligations ic Assumptions for on Valuations ray, FSPA: Actuaria		
Course Website		odle.hku.hk					

STAT4602	Multiva	iate data analysi	s (6 credits)		Academic Year	2018	
Offering Department	Statistics	& Actuarial Science			Quota	50	
Course Co-ordinator	Prof T W	K Fung, Statistics & A	Actuarial Science (wingfu	ng@hku.hk)			
Teachers Involved	(Prof T W	K Fung, Statistics & A	Actuarial Science)	· ·			
Course Objectives	each obs correlated statistical	In many designed experiments or observational studies, the researchers are dealing with multivariate data, where each observation is a set of measurements taken on the same individual. These measurements are often correlated. The correlation prevents the use of univariate statistics to draw inferences. This course develops the statistical methods for analysing multivariate data through examples in various fields of application and hands-or experience with the statistical software SAS.					
Course Contents & Topics	Problems covariand compone	with multivariate da e matrix. Correlatio nts analysis. Factor	ta. Multivariate normality ons: Simple, partial, m r analysis. Problems fo is. Classification. Multiva	ultiple and canonical. r means of several s	Multivariate regre	ession. Principal	
Course Learning	On succe	ssful completion of th	nis course, students shou	ld be able to:			
Outcomes	P	RÓC CANCORR, PF	lata with main SAS proc ROC PRINCOMP, PROC structure of multiple mea	FACTOR, PROC DISCF	RIM, PROC CAND	ISC and etc	
	CLO 2 compare the mean structure of multiple measurements for one or more than one population(s) by multivariate MANOVA and profile analysis						
	CLO 3 investigate the linear associations among one/two group(s) of variables by multiple, partial and canonical correlation and multivariate regression						
	CLO 4 explore the latent linear structure of a data set with multiple measurements by principal components analysis and factor analysis						
	CLO 5 cl	assify observations of	of a population with one o	r more than one measure	ements by discrim	inant analysis	
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in S	TAT3600 or STAT39	907				
Offer in 2018 - 2019	Y 2nd	sem Offer in 2019	9 - 2020 : Y		Examination	May	
Grade Descriptors (A+ to F)	Α	learning outcomes. Sho	mastery at an advanced leve ow strong analytical and critical a wide range of complex, fan	abilities and logical thinking, v	vith evidence of origina	al thought, and ability	
	В	·					
	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 Show evidence of some	it limited command of knowledge coherent and logical thinking,	e and skills required for attain but with limited analytical and	ing some of the cours critical abilities. Show		
	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.						

Course Type	Lecture-based course				
Course Teaching	Activities	No. of Hours			
& Learning Activities	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, tutorials, and a class test)	50	CLO 1,2,3,4,5	
	Examination	One 3-hour written examination	50	CLO 1,2,3,4,5	
Required/recommended reading and online materials	Johnson, R. A. & Wichern, D. W.: Applied Multivariate Statistical Analysis (Prentice-Hall, 2007, 6th edition) Mardia K. V., Kent J. T., and Bibby J. M.: Multivariate Analysis (Academic Press, 1979) Seber G. A. F.: Multivariate Observations (John Wiley & Sons, 1984) Morrison D. F.: Multivariate Statistical Methods (McGraw-Hill, 1990, 3rd ed.) Hair J. F., Anderson R. E., Tatham R. L., & Black W. C.: Multivariate Data Analysis (Prentice-Hall, 2006, 6th edition) Srivastava M. S.: Methods of Multivariate Statistics (John Wiley and Sons, 2002) SAS Manuals on-line: Use the HELP button.				
Course Website	http://moodle.hku.hk				

STAT4607	Credit ri	sk analysis (6 cred	its)	Academic Year	2018		
Offering Department	Statistics 8	& Actuarial Science		Quota			
Course Co-ordinator			Science (watkp@hku.hk)				
Teachers Involved		at,Statistics & Actuaria	•				
Course Objectives	other cour change in measuring	or a commercial bank, credit risk has always been the most significant. It is the risk of default on debt, swap, or ther counterparty instruments. Credit risk may also result from a change in the value of an asset resulting from a nange in the counterparty's creditworthiness. This course will introduce students to quantitative models for leasuring and managing credit risk. It also aims to provide students with an understanding of the credit risk lethodology used in the financial industry and the regulatory framework in which the credit risk models operate.					
Course Contents & Topics	Probabilition internal ra	es of default, recovery	rates and loss given default; Defa ortfolio models such as CreditMetri	ult and credit migration; o	redit scoring and		
Course Learning	On succes	sful completion of this	course, students should be able to:				
Outcomes	CLO 1 un	derstand the Basel req	uirements for credit risk				
	CLO 2 estimate credit scores using the logit model CLO 3 understand and estimate default probabilities using various approaches such as Moody's KMV an mortality method CLO 4 understand the concept of credit value-at-risk and the CreditMetrics approach CLO 5 estimate default correlations						
		sess rating systems	5110				
Pre-requisites (and Co-requisites and Impermissible combinations)		0 ,	or STAT3910 or (FINA2322 and any	University level 3 course)			
Offer in 2018 - 2019	Y 1st	sem Offer in 2019 - 2	2020 : 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.						
	С	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 Fail	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. Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack					
Course Type		of analytical and critical a	abilities, logical and coherent thinking. Show d presentational skills are minimally effective of	very little or no ability to apply			
Course Type Course Teaching	Activities		Details		No. of Hours		
& Learning Activities	Lectures		Details		36		
· · · · · · · · · · · · · · · · · · ·	Tutorials				12		
	Reading /	Self study			100		
Assessment Methods and Weighting	Methods		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping		
	Assignme		Coursework (assignments, tutorials, and class test(s))	40	CLO 1,2,3,4,5,6		
			One 2-hour written examination	60	CLO 1,2,3,4,5,6		
Required/recommended reading and online materials	Models to Saunders, Value at R Loffler, G. Jorion, P. Crouhy, M Hull, J. C.						

	Bohn, J. R. and Stein, R. M. (2009). Active Credit Portfolio Management in Practice. Wiley. Smithson, C. W. (2003). Credit Portfolio Management. Wiley.
Course Website	http://moodle.hku.hk

STAT4608	Market ri	sk analysis (6 cred	its)	Academic Yea	r 2018	
Offering Department	Statistics 8	Actuarial Science		Quota		
Course Co-ordinator	Dr K Zhu,	Statistics & Actuarial Sc	cience (mazhuke@hku.hk)			
Teachers Involved	(Dr K Zhu,	Statistics & Actuarial Sc	cience)			
Course Objectives	Financial risk management has experienced a revolution in the last decade thanks to the introduction of ne methods for measuring risk, particularly Value-at-Risk (VaR). This course introduces modern risk management techniques covering the measurement of market risk using VaR models and financial time series models, an stress testing.					
Course Contents & Topics	Risk Measures; Value-at-Risk (VaR) models (parametric, Monte Carlo simulation and Historical simulation); Ris factor mapping; Advanced VaR models (GARCH-type models, extreme-value theory and normal-mixture); Principa Component Analysis and VaR; Backtesting and stress testing.					
Course Learning		On successful completion of this course, students should be able to:				
Outcomes	CLO 1	understand VaR and	d expected shortfall as risk measures	3		
	CLO 2	compute VaR and ex	xpected shortfall			
	CLO 3	model volatility using	GARCH-type models			
	CLO 4	understand extreme-	-value theory			
	CLO 5	understand backtest	ing and stress testing			
Pre-requisites (and Co-requisites and Impermissible combinations)		Pass in STAT3907 and STAT3910; or Pass in STAT4601 and (FINA2320 or STAT3609)				
Offer in 2018 - 2019	Y 2nd	sem Offer in 2019 - 2	020 : 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.					
	В					
	С	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					
	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.					
Course Type	Lecture-ba	sed course				
Course Teaching	Activities		Details		No. of Hours	
& Learning Activities	Lectures				36	
	Tutorials				12	
	Reading /	Self study			100	
Assessment Methods and Weighting	Methods		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping	
	Assignme	nts	Coursework (assignments, tutorials, and a class test)	40	CLO 1,2,3,4,5	
	Examinati		One 2-hour written examination	60	CLO 1,2,3,4,5	
Required/recommended reading and online materials	Alexander Alexander Alexander	C.: Market Models: A C C.: Market Risk Analys C.: Market Risk Analys	v Benchmark for Managing Financia Guide to Financial Data Analysis (Wi sis: Practical Financial Econometrics sis: Value-at-Risk Models (Wiley, 200 Time Series (Wiley, 2005, 2nd editic	ley, 2001) (Wiley, 2008) 09)	3rd edition)	
Course Website	http://mood	•	Time Series (vviicy, 2005, 2nd Editio	111)		
Jourge Menaile	map.//mood	AIC.I INC.I IIX				

STAT4711	Capstone experience for actuarial science undergraduates (6 credits)	Academic Year	2018
Offering Department	Statistics & Actuarial Science	Quota	50
Course Co-ordinator	Prof G Yin, Statistics & Actuarial Science (ug_enquiry@saas.hku.hk)		
Teachers Involved	(Prof G Yin, Statistics & Actuarial Science)		
Course Objectives	This project-based course aims to provide students with capstone experience problems in actuarial science by integrating and applying actuarial theories an years. It aims to help the students to establish a good and solid foundation students to equip with hands-on experience in solving practical problems designing the solution, and presentation of the results.	d techniques learnt of self-learning skil	in their universit ls, and to enable
Course Contents & Topics	No formal teaching will be given for this course. Students are expected to de project. Students will work in groups of four or five under the supervision supervisor. Students are required to give a presentation on their work two to 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 tradit	on of a teacher an o three weeks befor	d/or an industry re the end of th
	as life insurance, pension, finance, investment, enterprise risk management also encouraged to suggest topics in non-traditional actuarial areas provide and/or industry supervisor. All topics for this course will be subject to final apprelevance to actuarial science.	ed they can find a	suitable teache

		decide on the topic for a practical project, topic, and make suggestion on a solution of the		
Course Learning		on of this course, students should be able to:	ie problem identified in the	ii project.
Outcomes		cal problem, discuss the issues faced by o	different stakeholders, and	d design workable
	CLO 2 integrate theore	tical results and practical approaches, and to	specify limitations of curre	nt developments
	CLO 3 work in a team	and to collaborate with members with differen	t background	<u> </u>
	CLO 4 deliver actuaria	results effectively in a written report and in or	ral presentations	
	CLO 5 develop further skills	logical, critical thinking, creativity, technical re	eport writing, communication	on and consultation
	CLO 6 explain to a no financial securit	on-actuarial audience the approaches of ac y system	tuarial science as applied	I to problems in a
Pre-requisites (and Co-requisites		credits of advanced level disciplinary core. Pass in STAT3901, or already enrolled in this		(Actuarial Science)
and Impermissible		already enrolled in this course); and	000130, 01	
combinations)		s only for BSc(Actuarial Science) students, a	and is mutually exclusive v	with STAT4767 and
,	STAT4798.		,	
	The earliest that a stud	ent is allowed to take this capstone course is t	their year 3 study.	
Offer in 2018 - 2019	Y 1st sem 2nd se	m Offer in 2019 - 2020 : Y	Examination	No Exam
Grade Descriptors (A+ to F)	learning outco to apply know presentational		ical thinking, with evidence of original situations. Apply highly effective situations.	ginal thought, and ability ctive organizational and
	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.			
	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.			
Course Type	Project-based course			
Course Teaching	Activities	Details		No. of Hours
& Learning Activities	Reading / Self study	Tutorials, group work/project, read	ding/self-study	120
Assessment Methods and Weighting	Methods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
	Oral presentation	oral presentation, progress, attendance and in-class discussion	50	CLO 1,2,3,4,5,6
	Research report	written report	50	CLO 1,2,3,4,5
Course Website	http://moodle.hku.hk			

STAT4767	Actuaria	Actuarial science internship (6 credits) Academic Year			ar 2018	
Offering Department	Statistics 8	& Actuarial Science	· ·	Quota		
Course Co-ordinator	Dr A G Be	enchimol, Statistics & Ac	tuarial Science (benchi@hku.hk)			
Teachers Involved	(Various to	eachers as the assessor	rs of oral presentations and written	reports, Statistics & Actuar	ial 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	This cours	This course will include a written report which should emphasize important working/ educational experie			ational experiences	
& Topics		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.				
Course Learning	On succes	ssful completion of this of	course, students should be able to:			
Outcomes	CLO 1	gain practical experience	es during internship			
	CLO 2	describe basic actuarial	practices learned during the interr	nship		
	CLO 3	explain how actuarial th	eories learned in University can be	applied in practice		
	CLO 4	provide context for spec	cific technical skills developed in ba	asic actuarial courses		
and Impermissible			Sc(Actuarial Science) students; an		n STAT4711.	
and Impermissible					n STAT4711.	
combinations) Offer in 2018 - 2019 Grade Descriptors (Pass	The earlie	est that a student is allow sem 2nd sem Offer Able to apply knowledge to assigned by supervisor(s).	red to take this capstone course is in 2019 - 2020 : Y solve problems in the workplace. Successfi Establishes effective collaboration and con	their year 3 study. Examination ully handles and carries out the warmunication with supervisor(s), or	No Exam ork required in the job o olleagues, and clients in	
combinations) Offer in 2018 - 2019 Grade Descriptors	The earlie	est that a student is allow sem 2nd sem Offer Able to apply knowledge to assigned by supervisor(s). the job. Successfully fulfills	red to take this capstone course is in 2019 - 2020 : Y solve problems in the workplace. Successf	their year 3 study. Examination ully handles and carries out the w nmunication with supervisor(s), o scription regarding working hours	No Exam rork required in the job of olleagues, and clients in the job of the control of the cont	
combinations) Offer in 2018 - 2019 Grade Descriptors (Pass /Pass with distinction	The earlie	set that a student is allow sem 2nd sem Offer Able to apply knowledge to assigned by supervisor(s), the job. Successfully fulfills and evaluation by supervis of "Distinction". Very limited or no ability to by supervisor(s). Fails to es	red to take this capstone course is in 2019 - 2020: Y solve problems in the workplace. Successfiestablishes effective collaboration and con the requirements set out in the Course Deor(s), etc. Students demonstrating excelle solve problems in the workplace. Fails to he tablish effective collaboration or communic ulurements set out in the Course Description.	their year 3 study. Examination ully handles and carries out the want of the work of the	No Exam ork required in the job or olleagues, and clients in s, written and oral reportuld be awarded a grade ed in the job or assigned leagues, or clients in the	
combinations) Offer in 2018 - 2019 Grade Descriptors (Pass /Pass with distinction /Fail)	The earlie Y 1st Pass	est that a student is allow sem 2nd sem Offer Able to apply knowledge to assigned by supervisor(s). the job. Successfully fulfills and evaluation by supervis of "Distinction". Very limited or no ability to by supervisor(s). Fails to es job. Fails to satisfy the recevaluation by supervisor(s),	red to take this capstone course is in 2019 - 2020: Y solve problems in the workplace. Successfiestablishes effective collaboration and con the requirements set out in the Course Deor(s), etc. Students demonstrating excelle solve problems in the workplace. Fails to he tablish effective collaboration or communic ulurements set out in the Course Description.	their year 3 study. Examination ully handles and carries out the want of the work of the	No Exam ork required in the job or olleagues, and clients in s, written and oral reportuld be awarded a grade ed in the job or assigned leagues, or clients in the	
combinations) Offer in 2018 - 2019 Grade Descriptors (Pass /Pass with distinction	The earlie Y 1st Pass Fail	set that a student is allow sem 2nd sem Offer Able to apply knowledge to assigned by supervisor(s). the job. Successfully fulfills and evaluation by supervis of "Distinction". Very limited or no ability to by supervisor(s). Fails to es job. Fails to satisfy the recevaluation by supervisor(s).	red to take this capstone course is in 2019 - 2020: Y solve problems in the workplace. Successfiestablishes effective collaboration and con the requirements set out in the Course Deor(s), etc. Students demonstrating excelle solve problems in the workplace. Fails to he tablish effective collaboration or communic ulurements set out in the Course Description.	their year 3 study. Examination ully handles and carries out the want of the work of the	No Exam ork required in the job or olleagues, and clients in s, written and oral reportuld be awarded a grade ed in the job or assigned leagues, or clients in the	
combinations) Offer in 2018 - 2019 Grade Descriptors (Pass /Pass with distinction /Fail) Course Type Course Teaching	The earlie Y 1st Pass Fail	set that a student is allow sem 2nd sem Offer Able to apply knowledge to assigned by supervisor(s), the job. Successfully fulfills and evaluation by supervis of "Distinction". Very limited or no ability to by supervisor(s). Fails to es job. Fails to satisfy the recevaluation by supervisor(s),	red to take this capstone course is in 2019 - 2020: Y solve problems in the workplace. Successfiestablishes effective collaboration and conthe requirements set out in the Course Defor(s), etc. Students demonstrating excelle solve problems in the workplace. Fails to his tablish effective collaboration or communic juirements set out in the Course Descript etc.	their year 3 study. Examination ully handles and carries out the wind munication with supervisor(s), conscription regarding working hours to performance in the above wo andle or carry out the work requiration with supervisor(s), other contains regarding working hours, with the supervisor(s) and the supervisor(s) and the supervisor(s) are contained to the supervisor(s) and the supervisor(s) are contained to the supervisor(s) and the supervisor(s) are contained to the supervisor(s).	No Exam ork required in the job of olleagues, and clients in s, written and oral report, and be awarded a grade ed in the job or assigned leagues, or clients in the itten and oral report, or	
combinations) Offer in 2018 - 2019 Grade Descriptors (Pass /Pass with distinction /Fail) Course Type	The earlie Y 1st Pass Fail Internship Activities	set that a student is allow sem 2nd sem Offer Able to apply knowledge to assigned by supervisor(s). the job. Successfully fulfills and evaluation by supervis of "Distinction". Very limited or no ability to by supervisor(s). Fails to es job. Fails to satisfy the rec evaluation by supervisor(s),	red to take this capstone course is in 2019 - 2020: Y solve problems in the workplace. Successf Establishes effective collaboration and con the requirements set out in the Course De or(s), etc. Students demonstrating excelle solve problems in the workplace. Fails to hitablish effective collaboration or communic juirements set out in the Course Descript etc. Details it is expected that students are to	their year 3 study. Examination ully handles and carries out the wind munication with supervisor(s), conscription regarding working hours to performance in the above wo andle or carry out the work requiration with supervisor(s), other contains regarding working hours, with the supervisor(s) and the supervisor(s) and the supervisor(s) are contained to the supervisor(s) and the supervisor(s) are contained to the supervisor(s) and the supervisor(s) are contained to the supervisor(s).	No Exam ork required in the job or olleagues, and clients in s, written and oral reportuld be awarded a grade ed in the job or assigned leagues, or clients in the itten and oral report, or of the the state of the	
combinations) Offer in 2018 - 2019 Grade Descriptors (Pass /Pass with distinction /Fail) Course Type Course Teaching & Learning Activities Assessment Methods	The earlie Y 1st Pass Fail Internship Activities Internship	set that a student is allow sem 2nd sem Offer Able to apply knowledge to assigned by supervisor(s). the job. Successfully fulfills and evaluation by supervis of "Distinction". Very limited or no ability to by supervisor(s). Fails to es job. Fails to satisfy the rec evaluation by supervisor(s),	red to take this capstone course is in 2019 - 2020: Y solve problems in the workplace. Successf Establishes effective collaboration and con the requirements set out in the Course Deor(s), etc. Students demonstrating excelle solve problems in the workplace. Fails to hitablish effective collaboration or communic juirements set out in the Course Descript etc. Details it is expected that students are to 120 working days	their year 3 study. Examination Ully handles and carries out the wind inmunication with supervisor(s), conscription regarding working hours of the examination with supervisor(s), other conscription regarding working hours, with supervisor(s), other considering hours	No Exam ork required in the job olleagues, and clients s, written and oral repould be awarded a graded in the job or assigned in the job or assigned leagues, or clients in tritten and oral report, of the leagues of the leagues of the leagues of the leagues or clients in tritten and oral report, of the leagues of the le	

	Written report	written report	60	CLO 1,2,3,4
Course Website	http://moodle.hku.hk			
Additional Course Information	employer/direct supervisor is requ Satisfactory completion of this co be recorded on the student's tra interested to enrol in this course s Enrolment of this course is not co	sessment component, the comple uired for passing the course. urse can be counted towards the C anscript. This course will be asse should contact the Department to o anducted via the online course selve a after approval has been obtained	Capstone requirement. essed on "Pass/Fail" babbain the approval. ection system and shou	Details of internship will asis. Students who are all be made through the

STAT4798	Statistic	Statistics and actuarial science project (6 credits) Academic Year 2018			ear 2018	
Offering Department		& Actuarial Science		Quota	50	
Course Co-ordinator	Prof S M S	S Lee, Statistics & A	Actuarial Science (smslee@hku.hk)			
Teachers Involved	(Various te	eachers as the ass	essors of oral presentations and writter	reports, Statistics & Actua	arial Science)	
Course Objectives		Each year a few projects suitable for Actuarial Science students will be offered to provide students with practica 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/o probability in a wide range of problems of practical and/or academic interests.				
Course Learning Outcomes	CLO 1 fo	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 a programm Pass or al This capst This cours	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: STAT3616, STAT3911, STAT4602; 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.				
Offer in 2018 - 2019			Offer in 2019 - 2020 : Y	Examination	n No Exam	
Grade Descriptors (A+ to F)	A	original thought. Insig to quote/reference ap	n grasp of the subject. Show strong analytical htful use and critical analysis / evaluation of infor tty. Critical use of data and results to draw app esentational skills. [Work of A+ should show cor opic.]	mation drawn from a full range or printer and insightful conclusions.	of high quality sources an ons. Apply highly effective	
	В					
	С	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.				
	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 analytical and critical	e of little or no grasp of the knowledge and u abilities, logical and coherent thinking. Limited and results and/or unable to draw appropriate	nderstanding of the subject. Evuse of secondary sources and	no critical comparison of	
Course Type	Project-ba	sed course				
Course Teaching	Activities		Details		No. of Hours	
& Learning Activities	Reading /	Self study				
Assessment Methods and Weighting	Methods		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping	
	Oral prese		oral presentation & in-class discussion	40	CLO 1,2,3	
	Research		written report	60	CLO 1,2,3	
Course Website		dle.hku.hk				
Additional Course Information	Approval i	s subject to past ac	cademic performance.			

STAT4901	Risk theory II (6 credits)	Academic Year	2018		
Offering Department	Statistics & Actuarial Science	Quota			
Course Co-ordinator	BC, Statistics & Actuarial Science ()				
Teachers Involved					
Course Objectives	This course is an advanced course in risk theory which extends various to discusses utility theory, ruin theory, aggregate claims process, and related topics	his course is an advanced course in risk theory which extends various topics discussed in STAT3906. It liscusses 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	On successful completion of this course, students should be able to:				
Outcomes	CLO 1 understand utility theory including some commonly used utility functions, Jensens inequality, risk and utility maximization				
	CLO 2 define discrete and continuous ruin models				
	CLO 3 calculate the adjustment coefficient, Lundbergs inequality and Tijms app		theory		
	CLO 4 understand the effect of reinsurance and change of parameters on ruin p	robability			
	CLO 5 understand non-homogeneous birth process and its applications as cont	agion models for o	claim frequencies		
	CLO 6 understand mixed Poisson process and its applications including the infla	ation model and th	ne IBNR model		
	CLO 7 derive the relationship between stop-loss moments and equilibrium distri	butions			

Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in STAT3906				
Offer in 2018 - 2019	N Offe	er in 2019 - 2020 : N		Examination	
Grade Descriptors (A+ to F)	A	learning outcomes. Show st	tery at an advanced level of extensive rong analytical and critical abilities and I de range of complex, familiar and unfa	ogical thinking, with evidence of ori	ginal thought, and ability
	В	learning outcomes. Show ev	mmand of a broad range of knowledge idence of analytical and critical abilities ans. Apply effective organizational and pre	and logical thinking, and ability to ap	
	С	outcomes. Show evidence of	ncomplete command of knowledge and of some analytical and critical abilities a derately effective organizational and pres	nd logical thinking, and ability to a	
	D	Show evidence of some coh	ted command of knowledge and skills re erent and logical thinking, but with limite s. Apply limited or barely effective organi	d analytical and critical abilities. She	
	Fail	Demonstrate little or no evid of analytical and critical ab	ence of command of knowledge and ski illities, logical and coherent thinking. S presentational skills are minimally effecti	Ils required for attaining the course how very little or no ability to ap	
Course Type	Lecture-ba	ased course	•		
Course Teaching	Activities	;	Details		No. of Hours
& Learning Activities	Lectures				36
	Tutorials				12
	Reading / Self study				100
Assessment Methods and Weighting	Methods		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
	Assignme	nts	Coursework (assignments, tutorials, and a class test)	25	CLO 1,2,3,4,5,6
					CLO 1,2,3,4,5,6
Required/recommended reading and online materials	edition). Kaas R., C Bowers N edition). Willmot G	Klugman S.A., Panjer H.H., & Willmot G.E.: Loss Models: From Data to Decisions (John Wiley & Sons, 2007, 3 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, 2r			, 1st edition). ctuaries, 1997, 2nd
Course Website	· · · ·	dle.hku.hk			

STAT4902	Selecte	ed topics in actuar	rial science (6 credits)	Academic Ye	ar 2018	
Offering Department	Statistics	& Actuarial Science	· · ·	Quota		
Course Co-ordinator	TBC, Sta	atistics & Actuarial Sci	ence ()			
Teachers Involved						
Course Objectives	students	This course is an advanced course in actuarial science which discusses selected topics which potential graduat students will find useful. It focuses on tools that are in the frontier of actuarial science with examples or applications.				
Course Contents & Topics	Coheren Ordering Comono	The contents will be chosen from the following topics: Coherent risk measures; Premium calculation principles; Copulas; Extreme value theory; Stochastic dominance Ordering of risks; Renewal equations with insurance applications; Reliability properties; Generalized linear models Comonotonicity; Measures of dependency; Phase-type distributions; Applications to enterprise risk analysis; Othe topics as determined by the instructor.				
Course Learning			nis course, students should be able	e to:		
Outcomes	CLO 1		hematical tools useful for further re			
	CLO 2		olve potentially unseen problems			
Pre-requisites (and Co-requisites and Impermissible combinations)	Pass in S	Pass in STAT3906				
Offer in 2018 - 2019	N Of	ffer in 2019 - 2020 : N		Examination		
Grade Descriptors (A+ to F)	A	learning outcomes. Sho to apply knowledge to presentational skills.	mastery at an advanced level of extension strong analytical and critical abilities and a wide range of complex, familiar and u	d logical thinking, with evidence of ori nfamiliar situations. Apply highly effe	ginal thought, and abili ctive organizational an	
	В	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.				
		and some unfamiliar sit	tuations. Apply effective organizational and			
	С	Demonstrate general to outcomes. Show evide	but incomplete command of knowledge a nce of some analytical and critical abilities	and skills required for attaining most and logical thinking, and ability to a	of the course learning pply knowledge to mo	
	C D	Demonstrate general toutcomes. Show evide familiar situations. Appl Demonstrate partial bu Show evidence of some	but incomplete command of knowledge a	and skills required for attaining most s and logical thinking, and ability to a presentational skills. Is required for attaining some of the co- tited analytical and critical abilities. Sh	pply knowledge to mo- ourse learning outcome	
		Demonstrate general I outcomes. Show evide familiar situations. Appl Demonstrate partial bu Show evidence of some knowledge to solve pro Demonstrate little or no of analytical and critic	but incomplete command of knowledge a ince of some analytical and critical abilities by moderately effective organizational and p t limited command of knowledge and skills e coherent and logical thinking, but with lim	and skills required for attaining most s and logical thinking, and ability to a presentational skills. It required for attaining some of the co- tited analytical and critical abilities. Shanizational and presentational skills. skills required for attaining the course. Show very little or no ability to ap	upply knowledge to most turse learning outcomes ow limited ability to app learning outcomes. Lac	
Course Type	D Fail	Demonstrate general I outcomes. Show evide familiar situations. Appl Demonstrate partial bu Show evidence of some knowledge to solve pro Demonstrate little or no of analytical and critic	but incomplete command of knowledge a nice of some analytical and critical abilitie- ly moderately effective organizational and p it limited command of knowledge and skills e coherent and logical thinking, but with lim blems. Apply limited or barely effective org; o evidence of command of knowledge and al abilities, logical and coherent thinking	and skills required for attaining most s and logical thinking, and ability to a presentational skills. It required for attaining some of the co- tited analytical and critical abilities. Shanizational and presentational skills. skills required for attaining the course. Show very little or no ability to ap	upply knowledge to mo burse learning outcome bow limited ability to app learning outcomes. Lac	
	D Fail	Demonstrate general to outcomes. Show evide familiar situations. Appl Demonstrate partial bu Show evidence of some knowledge to solve pro Demonstrate little or no of analytical and critic problems. Organization based course	but incomplete command of knowledge a nice of some analytical and critical abilitie- ly moderately effective organizational and p it limited command of knowledge and skills e coherent and logical thinking, but with lim blems. Apply limited or barely effective org; o evidence of command of knowledge and al abilities, logical and coherent thinking	and skills required for attaining most s and logical thinking, and ability to a presentational skills. It required for attaining some of the co- tited analytical and critical abilities. Shanizational and presentational skills. skills required for attaining the course. Show very little or no ability to ap	upply knowledge to mo burse learning outcome bow limited ability to app learning outcomes. Lac	
Course Teaching	D Fail Lecture-k	Demonstrate general to outcomes. Show evide familiar situations. Appl Demonstrate partial bu Show evidence of some knowledge to solve pro Demonstrate little or not analytical and critic problems. Organization based course	but incomplete command of knowledge ance of some analytical and critical abilities by moderately effective organizational and pt timited command of knowledge and skills e coherent and logical thinking, but with limblems. Apply limited or barely effective organization of command of knowledge and all abilities, logical and coherent thinking and presentational skills are minimally effective organizations.	and skills required for attaining most s and logical thinking, and ability to a presentational skills. It required for attaining some of the co- tited analytical and critical abilities. Shanizational and presentational skills. skills required for attaining the course. Show very little or no ability to ap	pply knowledge to mo ourse learning outcome ow limited ability to app learning outcomes. Land ply knowledge to solv	
Course Teaching	D Fail Lecture-k Activitie	Demonstrate general to outcomes. Show evide familiar situations. Appl Demonstrate partial bu Show evidence of some knowledge to solve pro Demonstrate little or nof analytical and critic problems. Organization based course	but incomplete command of knowledge ance of some analytical and critical abilities by moderately effective organizational and pt timited command of knowledge and skills e coherent and logical thinking, but with limblems. Apply limited or barely effective organization of command of knowledge and all abilities, logical and coherent thinking and presentational skills are minimally effective organizations.	and skills required for attaining most s and logical thinking, and ability to a presentational skills. It required for attaining some of the co- tited analytical and critical abilities. Shanizational and presentational skills. skills required for attaining the course. Show very little or no ability to ap	pply knowledge to mo ourse learning outcome ow limited ability to app learning outcomes. Lar ply knowledge to solv No. of Hours	
Course Type Course Teaching & Learning Activities	D Fail Lecture-t Activitie Lectures Tutorials	Demonstrate general to outcomes. Show evide familiar situations. Appl Demonstrate partial bu Show evidence of some knowledge to solve pro Demonstrate little or nof analytical and critic problems. Organization based course	but incomplete command of knowledge ance of some analytical and critical abilities by moderately effective organizational and pt timited command of knowledge and skills e coherent and logical thinking, but with limblems. Apply limited or barely effective organization of command of knowledge and all abilities, logical and coherent thinking and presentational skills are minimally effective organizations.	and skills required for attaining most s and logical thinking, and ability to a presentational skills. It required for attaining some of the co- tited analytical and critical abilities. Shanizational and presentational skills. skills required for attaining the course. Show very little or no ability to ap	pply knowledge to mo ourse learning outcome ow limited ability to app learning outcomes. La ply knowledge to solv No. of Hours 36	

	Assignments	Coursework (assignments, tutorials and class test(s))	40	CLO 1,2
	Examination		60	CLO 1,2
Required/recommended reading and online materials	- Denuit M., Dhaene J., Goovaerts - Willmot G.E. & Lin X.S.: Lundl (Springer, 2000, 1st edition).	J., & Denuit M.: Modern Actuarial Ri M., & Kaas R.: Actuarial Theory for perg Approximations for Compoun achts, P.: Quantitative Risk Manag 1st edition).	Dependent Risks (Wiley, 2 nd Distributions with Insur	2005, 1st edition). rance Applications
Course Website	http://moodle.hku.hk			

STAT4903	Actuari	al techniques f	or general insurance (6 credits)	Academic Ye	ar 2018
Offering Department	Statistics	& Actuarial Science	ce	Quota	
Course Co-ordinator	Dr A G B	enchimol, Statistic	s & Actuarial Science (benchi@hku.hk)		
Teachers Involved	(Dr A G E	Benchimol,Statistic	s & Actuarial Science)		
Course Objectives	The purpose of this course is to develop knowledge of the basic techniques for ratemaking and estimating clai liabilities for general insurance. Application of the actuarial techniques to resolve general insurance problems we be emphasized. The course also provides general knowledge on the general insurance markets in Hong Kong at China. Students will acquire the fundamental concept on general insurance actuarial science together with the supporting calculations. 1. General Insurance Markets in Hong Kong, Taiwan and PRC				
Course Contents & Topics	- Introdu	ral Insurance Mark ction of general ins tions on general in	surance markets		
	2. Basic techniques for ratemaking - How to read and use manual rate pages - Ratemaking related to exposures - Ratemaking related to premiums - Ratemaking related to loss and loss adjustment expenses - Calculate the underwriting expense provisions - Pure premium methods - Loss ratio methods - Rating differential and relativities - Considerations when selecting the final rates 3. Estimating claim liabilities - Data requirement - Build and analyze claim development triangles - Reserving techniques - Considerations when estimating the claim liabilities - Estimate recoveries and unpaid claim adjustment expenses - Appraise and validation of the estimated results 4. Applications using predictive modeling in General Insurance				
Sauraa I aarmina			Enterprise Risk Management, etc.		
Course Learning Outcomes	CLO 1		of this course, students should be able to: eature and underlying risk of general insur	ranco producto	
Outcomes	CLO 1		eature and underlying risk of general insur- mium rate for basic general insurance pro		
	CLO 3		ms liabilities for general insurance product		
Pre-requisites (and Co-requisites and Impermissible combinations)		STAT3906	me lasilitee ist general incarance precas		
Offer in 2018 - 2019	Y 1st	t sem Offer in 20	19 - 2020 : 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 learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organization presentational skills. B Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to 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 succomes. 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 out show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to 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 outcome of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to problems. Organization and presentational skills are minimally effective or ineffective.			ginal thought, and ability ctive organizational and east most of the course oly knowledge to familiar of the course learning oply knowledge to most urse learning outcomes. we limited ability to apply earning outcomes. Lack	
Course Type	Lecture-b	pased course	The state of the s	»	
Course Teaching	Activitie		Details		No. of Hours
& Learning Activities	Lectures				36
	Tutorials				12
	Reading	/ Self study			100
Assessment Methods and Weighting	Methods	5	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
	Assignm	ents	Coursework (assignments,	25	CLO 1,2,3
	Assignin	CITO			020 1,2,0
	Examina		tutorials, and a class test) One 3-hour written examination	75	CLO 2,3

online materials	Werner, G, and Modlin, C., Basic Ratemaking, Casualty Actuarial Society, Fourth Edition, October 2010
Course Website	http://moodle.hku.hk
Additional Course Information	References: Actuarial Standard Board of the American Academy of Actuaries, Actuarial Standard of Practice No. 13, Trending Procedures in Property/Casualty Insurance Ratemaking American Academy of Actuaries Committee on Risk Classification, Risk Classification Statement of Principles, June 1980 Casualty Actuarial Society Committee on Ratemaking Principles, Statement of Principles Regarding Property and Casualty Insurance Ratemaking, Casualty Actuarial Society, May 1988 Feldblum, S., Personal Automobile Premiums: An Asset Share Pricing Approach for Property-Casualty Insurance, PCAS LXXXIII, 1996, pp. 190-256 (excluding Secions 7-9) Insurance Services Office, Inc., Personal Automobile Manual (Effective 6-98), General Rules 1-6 only.

STAT4904	Statistic	al learning for ris	k modelling (6 credits)	Academic Year	2018
Offering Department		& Actuarial Science	, , , , , , , , , , , , , , , , , , ,	Quota	
Course Co-ordinator	Dr C Wang	g, Statistics & Actuari	ial Science (ug_enquiry@saas.hku.hk)		
Teachers Involved	(Dr C Wan	g,Statistics & Actuar	ial 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 som 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, shrinkag methods, dimensional reduction methods), tree-based methods (decision trees, bagging, boosting, random forests), principal component analysis, naive Bayes classification, cluster analysis (K-means clustering, hierarchic clustering)				
Course Learning			is course, students should be able to:		
Outcomes	CLO 1 understand and apply a wide range of predictive analytics techniques for risk modelling				
	CLO 2 a	pply the techniques b	by using the R programming language a	and interpret the outputs	
	CLO 3 re	ecognize and compar	re the characteristics, strengths and we	aknesses of different methor	ods
Pre-requisites (and Co-requisites and Impermissible combinations)	Not for stu	TAT3907 or STAT360 dents who have pass ctuarial Science) stu	sed in STAT3612, or already enrolled in	this course; and	
Offer in 2018 - 2019	Y 2nd	sem Offer in 2019	- 2020 : Y	Examination	May
Grade Descriptors (A+ to F)	A	learning outcomes. Show	mastery at an advanced level of extensive know strong analytical and critical abilities and logica a wide range of complex, familiar and unfamilia	al thinking, with evidence of origin	al thought, and ability
	В	•			
	С				
	D				
	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.				
Course Type	Lecture-ba	ased course			
Course Teaching	Activities	·	Details		No. of Hours
& Learning Activities	Lectures				36
	Tutorials				12
	Reading /	Self study			100
Assessment Methods and Weighting	Methods		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping
	Assignme	nts	Coursework (assignments, class test(s) and project(s))	50	CLO 1,2,3
	Examinati		One 2-hour written examination	50	CLO 1,2,3
Required/recommended reading and online materials	An Introdu Springer	iction to Statistical Le	earning, with Applications in R, James,	Witten, Hastie, Tibshirani,	2013, New York
Course Website	http://mood	dle.hku.hk			

STAT7609	Research methods in statistics (6 credits)	Academic Year	2018
Offering Department	Statistics & Actuarial Science	Quota	
Course Co-ordinator	Prof J J F Yao, Statistics & Actuarial Science (jeffyao@hku.hk)		
Teachers Involved	(Prof J J F Yao, Statistics & Actuarial Science)		
Course Objectives	This course introduces some statistical concepts and methods which potential preparing for work on a research degree in statistics. Focus is on applicated techniques and their underlying theory.		
Course Contents & Topics	Contents may be selected from: (1) Basic asymptotic methods: modes of convergence; stochastic orders; lar theorems; delta method; Edgeworth expansions; saddlepoint approximations. (2) Parametric and nonparametric likelihood methods: high-order approximation signed likelihood ratio statistics; empirical likelihood. (3) Nonparametric statistical inference: sign and rank tests; Kolmogorov-Smirr density estimation; kernel methods. (4) Computationally-intensive methods: cross-validation; bootstrap; permutation	s; profile likelihoodov test; nonparan	d and its variants;

Course Learning On su CLO CLO CLO CLO	odel selection using informaticher topics as determined by accessful completion of this of a comprehend the languar understand the use of stapply a variety of resear acquire exposure to som in STAT3600 or STAT3907 1st sem Offer in 2019 - 20 Demonstrate thorough masterning outcomes. Show stapply knowledge to a ward presentational skills. Demonstrate substantial collearning outcomes. Show evand some unfamiliar situation.	the instructor. course, students should be able to: ge and technicalities found in statist tandard mathematical tools for cond the tools to solve standard statistica ne developments in contemporary s	tical research literature ducting statistical research il problems statistical research Examination nowledge and skills required for ical thinking, with evidence of or liar situations. Apply highly effe d skills required for attaining at I logical thinking, and ability to ap	Dec attaining all the course iginal thought, and ability citive organizational and least most of the course	
Course Learning On su CLO	ther topics as determined by accessful completion of this of a comprehend the language understand the use of standard apply a variety of resear acquire exposure to som in STAT3600 or STAT3907 1st sem Offer in 2019 - 20 Demonstrate thorough mast learning outcomes. Show standard apply knowledge to a ward presentational skills. Demonstrate substantial con learning outcomes. Show evand some unfamiliar situation.	the instructor. course, students should be able to: ge and technicalities found in statist tandard mathematical tools for cond the tools to solve standard statistical the developments in contemporary solve the dev	ducting statistical research I problems Statistical research Examination Towledge and skills required for cal thinking, with evidence of or cal thinking. Apply highly effect of skills required for attaining at a logical thinking, and ability to apply the same content of the statistical research.	Dec attaining all the course iginal thought, and ability citive organizational and least most of the course	
Course Learning Outcomes On su CLO CLO CLO CLO CLO CHO CLO CLO CLO CLO CLO CLO CLO CLO CLO CL	comprehend the language understand the use of standard the use of	course, students should be able to: ge and technicalities found in statis tandard mathematical tools for concret tools to solve standard statistical ne developments in contemporary solution of the statistical and critical abilities and logical range of complex, familiar and unfamination of a broad range of knowledge and vidence of analytical and critical abilities and	ducting statistical research I problems Statistical research Examination Towledge and skills required for cal thinking, with evidence of or cal thinking. Apply highly effect of skills required for attaining at a logical thinking, and ability to apply the same content of the statistical research.	Dec attaining all the course iginal thought, and ability citive organizational and least most of the course	
Outcomes CLO CLO CLO CLO CLO CLO CLO CLO Pre-requisites (and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) R B	comprehend the language understand the use of st apply a variety of resear acquire exposure to som in STAT3600 or STAT3907 1st sem Offer in 2019 - 20 Demonstrate thorough masterning outcomes. Show st to apply knowledge to a w presentational skills. Demonstrate substantial co learning outcomes. Show ev and some unfamiliar situation.	ge and technicalities found in statis' tandard mathematical tools for concret tools to solve standard statistical ne developments in contemporary solves are a development of the statistical and critical abilities and logical range of complex, familiar and unfamination of a broad range of knowledge and vidence of analytical and critical abilities and vidence of analytical analytical and critical abilities and vidence of analytical	ducting statistical research I problems Statistical research Examination Towledge and skills required for cal thinking, with evidence of or cal thinking. Apply highly effect of skills required for attaining at a logical thinking, and ability to apply the same content of the statistical research.	Dec attaining all the course iginal thought, and ability citive organizational and least most of the course	
Pre-requisites (and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) CLO CLO CLO Pass Pass A B	2 understand the use of st 3 apply a variety of resear 4 acquire exposure to som in STAT3600 or STAT3907 1st sem Offer in 2019 - 20 Demonstrate thorough mas learning outcomes. Show st to apply knowledge to a w presentational skills. Demonstrate substantial co learning outcomes. Show ev and some unfamiliar situatio	tandard mathematical tools for condition tools to solve standard statistical ne developments in contemporary solutions. O20: Y Stery at an advanced level of extensive known analytical and critical abilities and logical range of complex, familiar and unfaminations of a broad range of knowledge and vidence of analytical and critical abilities and vidence of analytical analytical and critical abilities and vidence of analytical analyt	ducting statistical research I problems Statistical research Examination Towledge and skills required for cal thinking, with evidence of or cal thinking. Apply highly effect of skills required for attaining at a logical thinking, and ability to apply the same content of the statistical research.	Dec attaining all the course iginal thought, and ability citive organizational and least most of the course	
Pre-requisites (and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) CLO Pass Pass A B	4 acquire exposure to som in STAT3600 or STAT3907 1st sem Offer in 2019 - 20 Demonstrate thorough mas learning outcomes. Show si to apply knowledge to a w presentational skills. Demonstrate substantial co learning outcomes. Show ev and some unfamiliar situation.	ne developments in contemporary s 020 : Y stery at an advanced level of extensive kn trong analytical and critical abilities and logi ride range of complex, familiar and unfami	Examination and skills required for its still required for its still required for its still required for its still required for attaining at a logical thinking, and ability to apply the still required for attaining at a logical thinking, and ability to apply the still required for attaining at a logical thinking, and ability to apply the still required for attaining at a logical thinking.	attaining all the course iginal thought, and ability active organizational and least most of the course	
Pre-requisites (and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) Pass Pass A B	1st sem Offer in 2019 - 20 Demonstrate thorough mas learning outcomes. Show si to apply knowledge to a w presentational skills. Demonstrate substantial co learning outcomes. Show ev and some unfamiliar situation	020 : Y stery at an advanced level of extensive kn trong analytical and critical abilities and logi vide range of complex, familiar and unfami	Examination rowledge and skills required for ical thinking, with evidence of or liar situations. Apply highly effed skills required for attaining at logical thinking, and ability to apply the significant stress of the stress o	attaining all the course iginal thought, and ability active organizational and least most of the course	
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F) B	1st sem Offer in 2019 - 20 Demonstrate thorough mas learning outcomes. Show st to apply knowledge to a w presentational skills. Demonstrate substantial co learning outcomes. Show ev and some unfamiliar situation	stery at an advanced level of extensive kn trong analytical and critical abilities and logi vide range of complex, familiar and unfami ommand of a broad range of knowledge and vidence of analytical and critical abilities and	nowledge and skills required for ical thinking, with evidence of or iliar situations. Apply highly effect diskills required for attaining at logical thinking, and ability to approximate the strength of the	attaining all the course iginal thought, and ability active organizational and least most of the course	
Grade Descriptors (A+ to F) B	Demonstrate thorough mas learning outcomes. Show sto apply knowledge to a water presentational skills. Demonstrate substantial colearning outcomes. Show ever and some unfamiliar situations.	stery at an advanced level of extensive kn trong analytical and critical abilities and logi vide range of complex, familiar and unfami ommand of a broad range of knowledge and vidence of analytical and critical abilities and	nowledge and skills required for ical thinking, with evidence of or iliar situations. Apply highly effect diskills required for attaining at logical thinking, and ability to approximate the strength of the	attaining all the course iginal thought, and ability active organizational and least most of the course	
(A+ to F)	learning outcomes. Šhow si to apply knowledge to a w presentational skills. Demonstrate substantial co learning outcomes. Show ev and some unfamiliar situation	trong analytical and critical abilities and logi ride range of complex, familiar and unfami ommand of a broad range of knowledge an- vidence of analytical and critical abilities and	ical thinking, with evidence of or liar situations. Apply highly effe d skills required for attaining at I logical thinking, and ability to ap	iginal thought, and ability ective organizational and least most of the course	
	learning outcomes. Show ever and some unfamiliar situation	vidence of analytical and critical abilities and	l logical thinking, and ability to ap		
С	Demonstrate general but in		mational 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		required for attaining the course w very little or no ability to ap or ineffective.			
Course Type Lectu	re-based course	•			
Course Teaching Activ	rities	Details		No. of Hours	
& Learning Activities Lectu	ires			36	
Tutor	ials			12	
Read	ling / Self study			100	
Assessment Methods and Weighting	ods	Details	Weighting in final course grade (%)	Assessment Methods to CLO Mapping	
Assiç	nments	Coursework (assignments, tutorials, and a class test)	25	CLO 1,2,3,4	
		One 2-hour written examination	75	CLO 1,2,3,4	
reading and Efron, online materials Owen Shao,	Examination One 2-hour written examination 75 CLO 1,2,3, DasGupta, A. (2008). Asymptotic Theory of Statistics and Probability. Springer:. 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. Wasserman, L. (2006). All of Nonparametric Statistics. Springer.			ork.	
	moodle.hku.hk	parametrio etationico. Opinigor.			

	Advanc	ed probability (6 credits)			Academic Year	2018
Offering Department	Statistics	& Actuarial Science	e			Quota	
Course Co-ordinator	Prof H L	Yang, Statistics & A	Actuarial Science	(hlyang@hku.h	k)		
Teachers Involved	(Prof H L	Yang, Statistics & A	Actuarial Science)				
Course Objectives		rse provides an in in theoretical prob stics.					
Course Contents & Topics	space, r	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	On succe	essful completion of	this course, stude	ents should be	able to:		
Outcomes	CLO 1 u	nderstand the fund	amental measure	theory and pro	bability theory		
		CLO 2 learn the general concept of integration, understand the monotone convergence theorem, Fatou's lemmand dominated convergence theorem					ı, Fatou's lemma
	CLO 3 understand the concept of conditional expectation						
	CLO 4 h	ave some element	ary knowledge of	martingale			
Pre-requisites (and Co-requisites	Pass in S	STAT3603 or STAT	3903				
and Impermissible							
and Impermissible combinations)	Y 1s	t sem Offer in 20	19 - 2020 : Y			Examination	Dec
(and Co-requisites and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors (A+ to F)	Y 1s	Demonstrate thorou learning outcomes.	gh mastery at an adv Show strong analytical	I and critical abilitie	ensive knowledge and s and logical thinking, v nd unfamiliar situations	skills required for atta with evidence of origina	aining all the course al thought, and ability
and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors		Demonstrate thorou learning outcomes. to apply knowledge presentational skills. Demonstrate substa learning outcomes. S	gh mastery at an adv Show strong analytical to a wide range of contial command of a bi Show evidence of anal	I and critical abilitie complex, familiar and road range of know ytical and critical at	s and logical thinking, v	skills required for atta with evidence of origina . Apply highly effective ed for attaining at leas ng, and ability to apply	aining all the course al thought, and ability e organizational and at most of the course
and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	A	Demonstrate thorou learning outcomes. It is apply knowledge presentational skills. Demonstrate substallearning outcomes. It is and some unfamiliar Demonstrate genera outcomes. Show ev	gh mastery at an adv Show strong analytical to a wide range of c ntial command of a bi Show evidence of anal situations. Apply effec il but incomplete con dence of some analy!	I and critical abilitie complex, familiar au road range of knov ytical and critical at ctive organizational nmand of knowled tical and critical ab	s and logical thinking, vand unfamiliar situations valedge and skills requiruities and logical thinkir	skills required for atta with evidence of origina. Apply highly effective ed for attaining at leasing, and ability to apply s. for attaining most of ng, and ability to apply	aining all the course al thought, and ability e organizational and at most of the course knowledge to familial the course learning
and Impermissible combinations) Offer in 2018 - 2019 Grade Descriptors	В	Demonstrate thorou learning outcomes. It oapply knowledge presentational skills. Demonstrate substa learning outcomes. It oa some unfamiliar Demonstrate genera outcomes. Show ev familiar situations. A Demonstrate partial Show evidence of sc	gh mastery at an adv Show strong analytical to a wide range of contial command of a bishow evidence of anal situations. Apply effect but incomplete condence of some analy poply moderately effect but limited command me coherent and logid	I and critical abilitie complex, familiar an road range of know ytical and critical at citive organizational mmand of knowled tical and critical ab ive organizational a of knowledge and cal thinking, but wit	s and logical thinking, wand unfamiliar situations whedge and skills requiribilities and logical thinking and presentational skillinge and skills required lilities and logical thinking and logical thinking.	skills required for atta with evidence of origina. Apply highly effective ed for attaining at leas ng, and ability to apply so for attaining most of ng, and ability to apply ing some of the course critical abilities. Show I	aining all the course al thought, and ability e organizational and at most of the course knowledge to familial the course learning y knowledge to most e learning outcomes.

Course Type	Lecture-based course	Lecture-based course				
Course Teaching	Activities	No. of Hours				
& Learning Activities	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, tutorials, and a class test)	25	CLO 1,2,3,4		
	Examination	One 2-hour written examination	75	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	Computa	ational statistics (6 o	credits)	Academic Year	r 2018
Offering Department		& Actuarial Science		Quota	
Course Co-ordinator		, Statistics & Actuarial S	,0, 0 ,		
Teachers Involved	· ·	n,Statistics & Actuarial S	•		
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 Metropoli 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	On succes	sful completion of this c	ourse, students should be able to:		
Outcomes	Ca	dom variables in Bayesia	,		
	alg	orithm and apply them t	nd disadvantages of the Newton-F to fit generalized linear models	·	
			and basic principle of the EM-type a and apply them to solve practical pro		algorithms, realize
		ply EM-type algorithms nerate posterior sample:	to find the posterior mode and aps	ply Markov chain Monte	Carlo methods to
			to obtain estimated standard errors etric and non-parametric cases	s of estimators and confid	dence intervals of
Pre-requisites	Pass in ST	AT3600 or STAT3907	·		
(and Co-requisites and Impermissible combinations)					
Offer in 2018 - 2019	Y 1st s	sem Offer in 2019 - 20	20 : Y	Examination	Dec
Grade Descriptors (A+ to F)	A	learning outcomes. Show str	tery at an advanced level of extensive know rong analytical and critical abilities and logica de range of complex, familiar and unfamilia	I thinking, with evidence of origin	nal thought, and ability
	В	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.			
	С	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 limit Show evidence of some coh	userately enective organizational and presenta leed command of knowledge and skills require erent and logical thinking, but with limited and s. Apply limited or barely effective organization	ed for attaining some of the cour alytical and critical abilities. Show	rse learning outcomes.
	D Fail	Demonstrate partial but limit Show evidence of some coh knowledge to solve problems Demonstrate little or no evid of analytical and critical ab	ed command of knowledge and skills require erent and logical thinking, but with limited and	ed for attaining some of the cour alytical and critical abilities. Show nal and presentational skills. quired for attaining the course le very little or no ability to apply	rse learning outcomes. Imited ability to apply arning outcomes. Lack
Course Type	Fail	Demonstrate partial but limit Show evidence of some coh knowledge to solve problems Demonstrate little or no evid of analytical and critical ab	ted command of knowledge and skills require erent and logical thinking, but with limited and s. Apply limited or barely effective organization ence of command of knowledge and skills re- illities, logical and coherent thinking. Show	ed for attaining some of the cour alytical and critical abilities. Show nal and presentational skills. quired for attaining the course le very little or no ability to apply	rse learning outcomes. Imited ability to apply arning outcomes. Lack
Course Teaching	Fail	Demonstrate partial but limit Show evidence of some coh knowledge to solve problems Demonstrate little or no evid of analytical and critical ab problems. Organization and used course	ted command of knowledge and skills require erent and logical thinking, but with limited and s. Apply limited or barely effective organization ence of command of knowledge and skills re- illities, logical and coherent thinking. Show	ed for attaining some of the cour alytical and critical abilities. Show nal and presentational skills. quired for attaining the course le very little or no ability to apply	rse learning outcomes. Imited ability to apply arning outcomes. Lack
Course Teaching	Fail Lecture-ba	Demonstrate partial but limit Show evidence of some coh knowledge to solve problems Demonstrate little or no evid of analytical and critical ab problems. Organization and used course	ted command of knowledge and skills require erent and logical thinking, but with limited and s. Apply limited or barely effective organization ence of command of knowledge and skills re- ilities, logical and coherent thinking. Show presentational skills are minimally effective or	ed for attaining some of the cour alytical and critical abilities. Show nal and presentational skills. quired for attaining the course le very little or no ability to apply	se learning outcomes. v limited ability to apply arning outcomes. Lack y knowledge to solve
Course Teaching	Fail Lecture-ba Activities Lectures Tutorials	Demonstrate partial but limit Show evidence of some colo knowledge to solve problems Demonstrate little or no evid of analytical and critical ab problems. Organization and issed course	ted command of knowledge and skills require erent and logical thinking, but with limited and s. Apply limited or barely effective organization ence of command of knowledge and skills re- ilities, logical and coherent thinking. Show presentational skills are minimally effective or	ed for attaining some of the cour alytical and critical abilities. Show nal and presentational skills. quired for attaining the course le very little or no ability to apply	rse learning outcomes. I limited ability to apply arning outcomes. Lack y knowledge to solve No. of Hours
Course Teaching	Fail Lecture-ba Activities Lectures	Demonstrate partial but limit Show evidence of some colo knowledge to solve problems Demonstrate little or no evid of analytical and critical ab problems. Organization and issed course	ted command of knowledge and skills require erent and logical thinking, but with limited and s. Apply limited or barely effective organization ence of command of knowledge and skills re- ilities, logical and coherent thinking. Show presentational skills are minimally effective or	ed for attaining some of the cour alytical and critical abilities. Show nal and presentational skills. quired for attaining the course le very little or no ability to apply	rse learning outcomes. I imited ability to apply arning outcomes. Lack y knowledge to solve No. of Hours 36
Course Teaching & Learning Activities Assessment Methods	Fail Lecture-ba Activities Lectures Tutorials	Demonstrate partial but limit Show evidence of some colo knowledge to solve problems Demonstrate little or no evid of analytical and critical ab problems. Organization and issed course	ted command of knowledge and skills require erent and logical thinking, but with limited and s. Apply limited or barely effective organization ence of command of knowledge and skills re- ilities, logical and coherent thinking. Show presentational skills are minimally effective or	ed for attaining some of the cour alytical and critical abilities. Show nal and presentational skills. quired for attaining the course le very little or no ability to apply	rse learning outcomes. I imited ability to apply arning outcomes. Lack y knowledge to solve No. of Hours 36 12
Course Teaching & Learning Activities Assessment Methods	Fail Lecture-ba Activities Lectures Tutorials Reading /	Demonstrate partial but limit Show evidence of some coth knowledge to solve problems Demonstrate little or no evid of analytical and critical ab problems. Organization and issed course Self study	ted command of knowledge and skills require erent and logical thinking, but with limited ans. Apply limited or barely effective organization ence of command of knowledge and skills relilities, logical and coherent thinking. Show presentational skills are minimally effective or Details	ed for attaining some of the cour allytical and critical abilities. Show nal and presentational skills. quired for attaining the course le very little or no ability to apply ineffective. Weighting in final	se learning outcomes. I limited ability to apply arning outcomes. Lack y knowledge to solve No. of Hours 36 12 100 Assessment Methods
Course Teaching & Learning Activities Assessment Methods	Fail Lecture-ba Activities Lectures Tutorials Reading / Methods	Demonstrate partial but limit Show evidence of some colo knowledge to solve problems Demonstrate little or no evid of analytical and critical ab problems. Organization and used course	red command of knowledge and skills require erent and logical thinking, but with limited and s. Apply limited or barely effective organization ence of command of knowledge and skills relities, logical and coherent thinking. Show presentational skills are minimally effective or Details Details Coursework (assignments,	weighting in final course grade (%)	se learning outcomes. I imited ability to apply arning outcomes. Lack y knowledge to solve No. of Hours 36 12 100 Assessment Methods to CLO Mapping
Course Type Course Teaching & Learning Activities Assessment Methods and Weighting Required/recommended reading and online materials	Fail Lecture-ba Activities Lectures Tutorials Reading / Methods Assignmer Examination Tan, M., T Computation Givens, G.	Demonstrate partial but limit Show evidence of some colon knowledge to solve problems Demonstrate little or no evid of analytical and critical ab problems. Organization and issed course Self study nts on ian, G.L. and Ng, K.W on (Chapman & Hall/CR H. and Hoeting, J.A.: Colon colon colon were considered as a colon	led command of knowledge and skills require erent and logical thinking, but with limited and s. Apply limited or barely effective organization ence of command of knowledge and skills relilities, logical and coherent thinking. Show presentational skills are minimally effective or Details Details Coursework (assignments, practical work, and a term test) One 2-hour written examination Bayesian Missing Data Problems:	weighting in final course grade (%) Weighting in final course grade (%) Weight Augmentation Weight Augmentation Z5 T5 EM, Data Augmentation	No. of Hours 36 12 100 Assessment Methods to CLO Mapping CLO 1,2,3,4,5 CLO 1,2,3,4,5

STAT7614	Advanced statistical modelling (6 credits)	Academic Year	2018
Offering Department	Statistics & Actuarial Science	Quota	
Course Co-ordinator	Dr Y K Chung, Statistics & Actuarial Science (yukchung@hku.hk)		

Teachers Involved	(Dr Y K C	hung, Statistics & Actuar	ial 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					
Course Contents	modelling approach and the model estimation procedures. Topics from: (i) Generalized linear models; (ii) Mixed models; (iii) Kernel and local polynomial regression; selection					
& Topics	of smoothing parameters; (iv) Generalized additive models; (v) Hidden Markov model and Bayesian network.					
Course Learning		0.	course, students should be able to:	ili walkov illouel allu bay	esian network.	
Outcomes		•	acteristic and rationale behind the	formulation of each statist	tical model	
			lata the most suitable statistical mo		arour mouor	
	CLO 3 develop computational skills of building scoring models for various management and prediction,					
	involving binary and count responses; employing the powerful tool of kernel smoothing					
	for real data mining problems; and analysing data with R packages glm2, lme4, gam, depmixS4, but or equivalent Python libraries					
Pre-requisites		TAT3600 or STAT3907	165			
(and Co-requisites	1 033 111 3	1A13000 01 31A13901				
and Impermissible						
combinations)						
Offer in 2018 - 2019	Y 1st	sem 2nd sem Offer	in 2019 - 2020 : Y	Examination	Dec May	
Grade Descriptors	Α		tery at an advanced level of extensive kn			
(A+ to F)			rong analytical and critical abilities and logi ide range of complex, familiar and unfami			
	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.					
	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					
	Fail	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				
	of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve					
			presentational skills are minimally effective	or ineffective.		
Course Type		ased course				
Course Teaching & Learning Activities	Activities	5	Details		No. of Hours	
a Learning Activities	Lectures				24 12	
		/ Self study			100	
Assessment Methods		•	Deteile	Wainhting in final	-	
and Weighting	Methods		Details	Weighting in final course grade (%)	Assessment Methods to CLO Mappin	
	Assignments		Coursework (assignments and	50	CLO 1,2,3	
	Assignme	51110	class test(s))			
	Examinat		One 2-hour written examination	50	CLO 1,2,3	
Required/recommended	Examinat	tion	` '/'	50	CLO 1,2,3	
Required/recommended reading and	Examinat	tion rs et al., 2010: Generaliz	One 2-hour written examination		CLO 1,2,3	
	Examinat R.H. Mye W. Hardle W. Zucch	tion rs et al., 2010: Generaliz e et al., 2004: Nonparam ini & I.L. MacDonald, 200	One 2-hour written examination ed Linear Models (2nd ed.), Wiley	Springer Series: An Introduction U		

STAT7615	Advand	Advanced quantitative risk management and finance (6 credits) Academic Year 2018			
Offering Department	Statistics	s & Actuarial Science	Quota		
Course Co-ordinator	Dr Z Zha	Dr Z Zhang, Statistics & Actuarial Science (zhangz08@hku.hk)			
Teachers Involved	(Dr Z Zh	ang, Statistics & Actuarial Science)			
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 analyse to address the discrepancy between finance theory and market data.				
Course Contents & Topics	Reduction univariat	s include: Elementary Stochastic Calculus; Basic Monte Carlo on Techniques; Simulating the value of options and the valu- ie volatility models; multivariate volatility models; Value-at-ris and stress testing; Extreme value theory for risk management.	e-at-risk for risk manage	ment; Review of	
Course Learning	On succe	essful completion of this course, students should be able to:			
Outcomes	CLO 1	apply Monte Carlo methods to determine the value of options a	and other derivative securi	ties	
	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				
Offer in 2018 - 2019	Y 2r	nd sem Offer in 2019 - 2020 : Y	Examination	May	
Grade Descriptors (A+ to F)	Α	Demonstrate thorough mastery at an advanced level of extensive know learning outcomes. Show strong analytical and critical abilities and logical to apply knowledge to a wide range of complex, familiar and unfamiliar presentational skills.	thinking, with evidence of origin	al thought, and ability	
	В	Demonstrate substantial command of a broad range of knowledge and si learning outcomes. Show evidence of analytical and critical abilities and log and some unfamiliar situations. Apply effective organizational and presenta	ical thinking, and ability to apply tional skills.	knowledge to familiar	
	С	Demonstrate general but incomplete command of knowledge and skills outcomes. Show evidence of some analytical and critical abilities and log familiar situations. Apply moderately effective organizational and presentati	ical thinking, and ability to appl		
	D	Demonstrate partial but limited command of knowledge and skills required Show evidence of some coherent and logical thinking, but with limited anal knowledge to solve problems. Apply limited or barely effective organization	I for attaining some of the cours ytical and critical abilities. Show		

Department of Statistics & Actuarial Science

	Pail Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. La 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.				
Course Type	Lecture-based course				
Course Teaching	Activities	Details		No. of Hours	
& Learning Activities	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, tutorials, and a class test)	25	CLO 1,2,3	
	Examination	One 2-hour written examination	75	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		,		

These regulations apply to students admitted under the 4-year '2012 curriculum' to the BSc in Actuarial Science degree curriculum to the first year in the academic year 2018-19 and thereafter.

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

Definitions

AS1¹ 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.

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 curriculum 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 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 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 values²:

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.

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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.

These regulations apply to students admitted under the 4-year '2012 curriculum' to the BSc in Actuarial Science degree curriculum to the first year in the academic year 2017-18.

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

Definitions

AS1¹ 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.

The curriculum for the BSc(ActuarSc) degree shall normally require eight semesters of full-

Period of study

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.

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 138 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 curriculum 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 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 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 138 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 values²:

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.

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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.

These regulations apply to students admitted under the 4-year '2012 curriculum' to the BSc in Actuarial Science degree curriculum to the first year in the academic years 2014-15, 2015-16 and 2016-17.

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

Definitions

AS1¹ 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.

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.

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

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 138 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 curriculum 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 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 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 138 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 Cumulative GPA scores, with all courses taken (including failed courses, but not including courses approved by the Senate graded as 'Pass', 'Fail' or 'Distinction') carrying equal weighting:

<u>Class of honours</u>	<u>CGPA range</u>
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 Cumulative 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 Cumulative 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.

These regulations apply to students admitted under the 4-year '2012 curriculum' to the BSc in Actuarial Science degree curriculum to the first year in the academic years 2012-13 and 2013-14.

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

Definitions

AS1¹ 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.

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.

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

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 138 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 in an approved institution of higher education elsewhere 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 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 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 138 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 Cumulative GPA scores, with all courses taken (including failed courses, but not including courses approved by the Senate graded as 'Pass', 'Fail' or 'Distinction') carrying equal weighting:

<u>Class of honours</u>	<u>CGPA range</u>
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 Cumulative 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 Cumulative 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.

REGULATIONS FOR FIRST DEGREE CURRICULA

Regulations for First Degree Curricula (for students admitted under the 4-year '2012 curriculum' to the first year in the academic year 2018-19 and thereafter)

(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

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¹ These regulations are applicable to candidates admitted from 2018-19 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.

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 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:

$$GPA = \frac{\sum\limits_{i}^{\Sigma} Course\ Grade\ Point \times Course\ Credit\ Value}{\sum\limits_{i}^{\Sigma} Course\ Credit\ Value}$$

(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 English² and 6 credits in an English in the Discipline course³;
- (b) successful completion of 6 credits in Chinese language enhancement⁴;
- (c) 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 Inquiry⁵ 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; and
- (d) successful completion of a capstone experience as specified in the syllabuses of the degree curriculum.

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.

² Candidates who have achieved Level 5** in English Language in the Hong Kong Diploma of Secondary Education Examination, or equivalent, may at the discretion of the Faculty be exempted from this requirement and 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*.

⁵ Candidates registered for dual degree studies are required to successfully complete 24 credits of courses in the Common Core Curriculum, selecting one course from each Area of Inquiry, within the curriculum of the first degree, as appropriate.

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 follows⁶:

Grade		Standard	Grade Point
A+	1		4.3
A	}	Excellent	4.0
A-	J		3.7
B+	1		3.3
В	}	Good	3.0
B-	J		2.7
C+	1		2.3
C	}	Satisfactory	2.0
C-	J	•	1.7
D+	l	Pass	1.3
D	ſ	rass	1.0
F		Fail	0

(b) Special permission may be given by Senate for courses in individual curricula to be

⁶ UG 8 is not applicable to the respective Professional Core of the BDS and MBBS curricula.

graded as 'Pass', 'Fail' or 'Distinction'. Such courses will not be included in the calculation of the GPA.

UG 9 Honours classifications:

(a) Honours classifications shall be awarded in five divisions⁷: 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, with all courses taken (including failed courses) carrying equal weighting which are proportionate to their credit values⁸:

<u>Class of honours</u>	<u>GGPA range</u>
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.

⁷ UG 9 is not applicable to the BChinMed, BDS and MBBS curricula.

⁸ 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.

REGULATIONS FOR FIRST DEGREE CURRICULA¹

Regulations for First Degree Curricula (for students admitted under the 4-year '2012 curriculum' to the first year in the academic year 2017-18 and students admitted directed to the second year in the academic year 2018-19)

(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

¹ These regulations are applicable to candidates admitted from 2017-18 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.

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 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:

$$GPA = \frac{\sum\limits_{i}^{\sum} Course \ Grade \ Point \times Course \ Credit \ Value}{\sum\limits_{i}^{\sum} Course \ Credit \ Value}$$

(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

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 English² and 6 credits in an English in the Discipline course³;
- (b) successful completion of 6 credits in Chinese language enhancement⁴;
- (c) 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 Inquiry⁵ 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; and
- (d) successful completion of a capstone experience as specified in the syllabuses of the degree curriculum.

UG 6 Exemption:

Candidates may be exempted, with or without special conditions attached, from any of the

² Candidates who have achieved Level 5** in English Language in the Hong Kong Diploma of Secondary Education Examination, or equivalent, may at the discretion of the Faculty be exempted from this requirement and 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*.

⁵ Candidates registered for dual degree studies are required to successfully complete 24 credits of courses in the Common Core Curriculum, selecting one course from each Area of Inquiry, within the curriculum of the first degree, as appropriate.

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.

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 follows⁶:

Grade		Standard	Grade Point
A+	1		4.3
A	}	Excellent	4.0
A-	J		3.7
B+	1		3.3
В	}	Good	3.0
B-	J		2.7
C+)		2.3
C	}	Satisfactory	2.0
C-	J	•	1.7
D+	l	Pass	1.3
D	ſ	1 ass	1.0
F		Fail	0

⁶ UG 8 is not applicable to the respective Professional Core of the BDS and MBBS curricula.

(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.

UG 9 Honours classifications:

(a) Honours classifications shall be awarded in five divisions⁷: 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, with all courses taken (including failed courses) carrying equal weighting which are proportionate to their credit values⁸:

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.

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⁷ UG 9 is not applicable to the BChinMed, BDS and MBBS curricula.

⁸ 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.

REGULATIONS FOR FIRST DEGREE CURRICULA¹

Regulations for First Degree Curricula (for students admitted under the 4-year '2012 curriculum' to the first year in the academic years in 2014-15, 2015-16 and 2016-17, students admitted directed to the second year in the academic year 2017-18, and students admitted directed to the third year in the academic years 2016-17, 2017-18 and 2018-19)

(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.

¹ These regulations are applicable to candidates admitted from 2016-17 onwards to the first year of first degree curricula under the 4-year '2012 curriculum', the 2-year curriculum in respect of the BSc(IM), the 5-year curriculum in respect of the BA&BEd(LangEd), BEd&BSc, BEd&BSocSc, BSc(Sp&HearSc), and BNurs, and the 6-year curriculum in respect of the BChinMed, BDS and MBBS. 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.

⁽The Regulations for First Degree Curricula applicable to cohorts admitted in 2012-13 and 2013-14 under the 4-year '2012 curriculum' can be found in the Calendar for 2013-14, and in the Calendar for 2014-15 for the cohorts admitted in 2014-15 and 2015-16.)

'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 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:

$$GPA = \frac{\sum\limits_{i}^{\Sigma} Course\ Grade\ Point \times Course\ Credit\ Value}{\sum\limits_{i}^{\Sigma} Course\ Credit\ Value}$$

(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.

'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 English² and 6 credits in an English in the Discipline course³;
- (b) successful completion of 6 credits in Chinese language enhancement⁴;
- (c) 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 Inquiry⁵ 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; and
- (d) successful completion of a capstone experience as specified in the syllabuses of the degree curriculum.

UG 6 Exemption:

Candidates may be exempted, with or without special conditions attached, from any of the

² Candidates who have achieved Level 5** in English Language in the Hong Kong Diploma of Secondary Education Examination, or equivalent, may at the discretion of the Faculty be exempted from this requirement and 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*.

⁵ Candidates registered for double degree studies are required to successfully complete 24 credits of courses in the Common Core Curriculum, selecting one course from each Area of Inquiry, within the curriculum of the first degree, as appropriate.

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.

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 follows⁶:

Grade		Standard	Grade Point
A+	1		4.3
A	}	Excellent	4.0
A-	J		3.7
B+)		3.3
В	}	Good	3.0
B-	J		2.7
C+	1		2.3
C	}	Satisfactory	2.0
C-	J	·	1.7
D+	l	Pass	1.3
D	ſ	rass	1.0
F		Fail	0

⁶ UG 8 is not applicable to the respective Professional Core of the BDS and MBBS curricula.

(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.

UG 9 Honours classifications:

(a) Honours classifications shall be awarded in five divisions⁷: 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 Cumulative GPA scores, with all courses taken (including failed courses) carrying equal weighting:

Class of honours	<u>CGPA range</u>
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 Cumulative 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 Cumulative 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.

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⁷ UG 9 is not applicable to the BChinMed, BDS and MBBS curricula.

REGULATIONS FOR FIRST DEGREE CURRICULA

Regulations for First Degree Curricula (for students admitted under the 4-year '2012 curriculum' to the first year in the academic years 2012-13 and 2013-14, and students admitted directly to the third year in 2014-15 and 2015-16)

(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.

¹ These regulations are applicable to candidates admitted from 2016-17 onwards to the first year of first degree curricula under the 4-year '2012 curriculum', the 2-year curriculum in respect of the BSc(IM), the 5-year curriculum in respect of the BA&BEd(LangEd), BEd&BSc, BEd&BSocSc, BSc(Sp&HearSc), and BNurs, and the 6-year curriculum in respect of the BChinMed, BDS and MBBS. 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.

⁽The Regulations for First Degree Curricula applicable to cohorts admitted in 2012-13 and 2013-14 under the 4-year '2012 curriculum' can be found in the Calendar for 2013-14, and in the Calendar for 2014-15 for the cohorts admitted in 2014-15 and 2015-16.)

'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 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:

$$GPA = \frac{\sum\limits_{i}^{\Sigma} Course\ Grade\ Point \times Course\ Credit\ Value}{\sum\limits_{i}^{\Sigma} Course\ Credit\ Value}$$

(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.

'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 in an approved institution of higher education elsewhere. 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 English² and 6 credits in an English in the Discipline course³;
- (b) successful completion of 6 credits in Chinese language enhancement⁴;
- (c) 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 Inquiry⁵ with not more than 24 credits of courses being selected within one academic year except where candidates are required to make up for failed credits; and
- (d) successful completion of a capstone experience as specified in the syllabuses of the degree curriculum.

² Candidates who have achieved Level 5** in English Language in the Hong Kong Diploma of Secondary Education Examination, or equivalent, may at the discretion of the Faculty be exempted from this requirement and 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*.

⁵ Candidates registered for double degree studies are required to successfully complete 24 credits of courses in the Common Core Curriculum, selecting one course from each Area of Inquiry, within the curriculum of the first degree, as appropriate.

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.

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 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 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.
- (e) 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 follows⁶:

Grade		Standard	Grade Point
A+	1		4.3
A	}	Excellent	4.0
A-	J		3.7
B+	1		3.3
В	}	Good	3.0
B-	J		2.7
C+	1		2.3
C	}	Satisfactory	2.0
C-	J	•	1.7
D+	1	Dana	1.3
D	}	Pass	1.0
F		Fail	0

⁶ UG 8 is not applicable to the respective Professional Core of the BDS and MBBS curricula.

(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.

UG 9 Honours classifications:

(a) Honours classifications shall be awarded in five divisions⁷: 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 Cumulative GPA scores, with all courses taken (including failed courses) carrying equal weighting:

Class of honours	CGPA 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 Cumulative 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 Cumulative 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.

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⁷ UG 9 is not applicable to the BChinMed, BDS and MBBS curricula.

Teaching Weeks 2018-19 for Undergraduate and Taught Postgraduate Students

	SUN	MON	TUE	WED	THUR	FRI	SAT	FIRST SEMESTER: SEP 3 - DEC 22, 2018	Week
	2	3	4	5	6	7	8	First Day of Teaching: Sep 3, 2018	1
SEP-18	9	10	11	12	13	14	15		2
	16	17	18	19	20	21	22		3
	23 30	24	[25]	26	27	28	29		4
	- 50	[1]	2	3	4	5	6		5
OCT 19	7	8	9	10	11	12	13	D. I. (F. 117), W. I. O. (15, 20, 2010)	6
OCT-18	14 21	15 22	16 23	[17] 24	18 25	19 26	20 27	Reading/ Field Trip Week: Oct 15 - 20, 2018	7(Reading) 8
	28	29	30	31	-20		27		9
		_		_	1	2	3		10
NOV-18	4 11	5 12	6 13	7 14	8 15	9 16	10 17		10 11
	18	19	20	21	22	23	24		12
	25	26	27	28	29	30		Last Day of Teaching: Dec 1, 2018	13
	2	3	4	5	6	7	1 8	Revision Period: Dec 3 - 7, 2018	14(Revision)
DEC-18	9	10	11	12	13	14	15	Assessment Period: Dec 8 - 22, 2018	1
DEC-16	16	17	18	19	20	21	22		2
	23 30	(24) <31>	[25]	[26]	27	28	29		Break
	30	\J1>	[1]	2	3	4	5		Break
	6	7	8	9	10	11	12	SECOND SEMESTER: JAN 14 - MAY 25, 2019	Break
JAN-19	13	14	15	16	17	18	19	First Day of Teaching: Jan 14, 2019	1
	20 27	21 28	22 29	23 30	24 31	25	26		2 3
		20		30	- 31	1	2		3
	3	<4>	[5]	<u>[6]</u>	[7]	8	9	Class Suspension Period for the Lunar New Year:	
FEB-19	10 17	11	12 19	13 20	14 21	15 22	16 23	Feb 5 - 11, 2019	4 5
	24	25	26	27	28	22	23		6
						1	2		
	3 10	11	5 12	13	7 14	8 15	9 (16)	Reading/ Field Trip Week: Mar 4 - 9, 2019	7(Reading) 8
MAR-19	17	18	19	20	21	22	23		9
	24	25	26	27	28	29	30		10
	31	1	2	3	4	[5]	6		11
	7	8	9	10	11	12	13		12
APR-19	14	15	16	17	18	[19]	[20]		13
	21 28	[22] 29	23 30	24	25	26	27	Last Day of Teaching: Apr 27, 2019 Revision Period: Apr 29 - May 4, 2019	14 15(Revision)
	20		50	[1]	2	3	4	revision reriod. Tipl 25 May 1, 2015	15(Ite vision)
	5	6	7	8	9	10	11	Assessment Period: May 6 - 25, 2019	1
MAY-19	12 19	[13] 20	14 21	15 22	16 23	17 24	18 25		2 3
	26	27	28	29	30	31			Break
				_			1		
	2 9	3 10	4 11	5 12	6 13	[7] 14	8 15		Break Break
JUN-19	16	17	18	19	20	21	22	OPTIONAL SUMMER SEMESTER	Break
	23	24	25	26	27	28	29	JUN 24 - AUG 17, 2019	1
	30	F17	2	3	4	5	6		2
	7	[1] 8	9	3 10	4 11	5 12	6 13		2 3
JUL-19	14	15	16	17	18	19	20		4
	21	22	23	24	25	26	27		5
	28	29	30	31	1	2	3		6
	4	5	6	7	8	9	10		7
AUG-19	11	12 19	13 20	14	15	16	17		8
	18 25	19 26	20 27	21 28	22 29	23 30	24 31		
	<u> </u>	20				- 50	J.1	1	
[] General Holiday Reading/ Field Trip Week									
() University	Holiday (F	Full Day)			Revision P	eriod			
<> University	Holiday (afternoon o	nlv)		Class Suen	ension Per	riod for the I	unar New Year	
. Z Chiversity	Tomay (\bigcup	стаз визр		IOI IIIC L		

Assessment Period

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

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 : http://www.sbms.hku.hk

Chemistry Website : https://www.chemistry.hku.hk/
Earth Sciences Website : https://www.earthsciences.hku.hk/

MathematicsWebsite: http://www.math.hku.hkPhysicsWebsite: http://www.physics.hku.hkStatistics and Actuarial ScienceWebsite: https://saasweb.hku.hk/

Academic Advising Office Tel : 3917 0128

Website : http://aao.hku.hk

Academic Services Office Office Location: G04, Run Run Shaw Building

Tel : 2859 2433
Fax : 2540 1405
Email : asoffice@hku.hk

Website : http://www.ase.hku.hk

Common Core courses Website : https://commoncore.hku.hk/

HKU Worldwide Undergraduate

Exchange Programme

Website : https://aal.hku.hk/studyabroad/

Centre of Development and Tel : 3917 2305

Resources for Students (CEDARS) Website : http://cedars.hku.hk

University Health Service Tel : 3917 2501 (General enquiries)

2549 4686 (Medical appointments only)

Website : http://www.uhs.hku.hk

Plagiarism Website : http://www.hku.hk/plagiarism