BSc in Actuarial Science

4

Syllabuses and Regulations (4-year curriculum)

2012-13

Faculty of Science

The University of Hong Kong

SECTION I	Objectives and Learning Outcomes	2
-----------	----------------------------------	---

SECTION II	Credit Unit Statement of BSc(ActuarSc) Degree Curriculum	3 - 4
		• •

SECTION III List of BSc(Actua	Sc) Courses on offer in 2012/13 and 2013/14 5
-------------------------------	---

SECTION IV	Equivalency of HKDSE and other qualifications	6
------------	---	---

SECTION V	BSc(ActuarSc) Programmes on offer in 2012/13	7 - 9
-----------	--	-------

SECTION VI	BSc(ActuarSc) Course Descriptions	10 - 14

English	
Mathematics	11
Statistics & Actuarial Science	

SECTION VII	Degree Regulations	15- 24
-------------	--------------------	--------

BSc(ActuarSc) Degree Regulations	15
University Regulations	19

SECTION VIII Teaching Weeks

r

25

SECTION I Objectives and Learning Outcomes

Degree : Bachelor of Science in Actuarial Science

Objectives : The Actuarial Science curriculum aims at providing formal academic and professional training to students who wish to join the actuarial profession. Although actuarial science is a separate discipline with its own area of knowledge, modern actuarial training requires multidisciplinary knowledge such as probability, statistics, economics, investment, finance, law, taxation, and accounting. The Actuarial Science curriculum reflects this by incorporating various interdisciplinary courses into the basic actuarial training. The programme is set up to equip students with solid background in actuarial science, to develop their confidence and analytical skills to define and tackle problems in actuarial science and other related fields. Specifically, the programme is designed to provide adequate knowledge for students to sit for the early professional examinations organized by international actuarial organizations so that they can successfully join the actuarial profession after graduation. In addition, the programme provides enough academic training for students who wish to pursue postgraduate studies in actuarial science 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 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
 (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- (3) develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues
 (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- (4) formulate effective business strategies to manage various kinds of risk
 (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- (5) communicate and collaborate with people effectively on issues related to actuarial science (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- (6) pass the early professional examinations organized by international actuarial organizations, and pursue postgraduate studies in actuarial science or other related fields
 (by means of coursework and tutorial classes and/or research-based project in the curriculum)
- discuss current actuarial issues and acquire and apply practical knowledge in some specially designed courses
 (by means of coursework and tutorial classes and/or research-based project in the curriculum)

SECTION II Credit Unit Statement of the BSc(ActuarSc) Degree Curriculum (4-year)

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

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

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

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

(a) Lecture-based courses (6 credits)

Contact hours: 36 hours of lectures and 12 hours of tutorial/discussion

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

(b) Lecture with laboratory component courses (6 credits)

Contact hours for 6-credit course: 24 hours of lectures, 24 hours of laboratory and 6 hours of tutorial

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

(c) Laboratory and Workshop courses (6 credits)

Contact hours: 48 hours of laboratory or workshop and 12 hours of tutorial

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

(d) Project-based courses (6 credits)

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

(e) Internship (6 credits)

Students have to undertake at least 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 2012/13 and 2013/14[^]

Course Code	Title	Title	Credit	Pre-requisite	Availa	ıble in			 Course Coordinator	Maj	or / Minor urse appears as a required course)
							0=year long 1=1st sem * 2=2nd sem S=summer TBC=To be confirmed	TBC= To be confirmed		Compulsory Course (Must Take)	Core Course (With Choices)
	Applied English Studies		1								
CAES1000	Core University English		NIL	Y	Y	1, 2	Dec, May	 Mr P D Desloge, English			
CAES9820	Academic English for science students	6	NIL	N	Y	TBC	TBC	 Mr P D Desloge, English			
School of C	Chinese										
CSCI9001	Practical Chinese for science students	6	NIL	N	N	TBC	TBC	 Mr K W Wong, Chinese			
Departmen	t of Mathematics		1		1			1	1		
-	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	Y	Y	1	Dec	 Dr J T Chan, Mathematics	2012 BSc in Actuarial Science		
MATH2822	Mathematical methods for actuarial science II	6	Pass in MATH1821 Mathematical methods for actuarial science I	Y	Y	2	May	 Dr J T Chan, Mathematics	2012 BSc in Actuarial Science		
Departmen	t of Statistics and Actuarial	Science	8						1		
STAT2901	Probability and statistics: foundations of actuarial science	6	(Pass in MATH1821 Mathematical methods for actuarial science I (for BSc(ActuarSc) students) or already enrolled in this course) or (Pass in MATH1013 University mathematics II 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 Elementary statistical methods, STAT1602 Business statistics, STAT2601 Probability and statistics I, STAT1603 Introductory statistics	Y	Y	2	May	 Prof H L Yang, Statistics and Actuarial Science	2012 BSc in Actuarial Science	2012 Minor in Actuarial Studies	
STA12902	Financial mathematics		Pass in STAT2901 Probability and statistics: foundations of actuarial science or already enrolled in this course; and Not for students who have passed in STAT3615 Practical mathematics for investment, or already enrolled in this course.	Y	Y	2	May	 Prof K C Yuen, Statistics and Actuarial Science	2012 BSc in Actuarial Science		

* As the 1st semester of 2012-13 will be shortened to cater for the double cohorts of UG freshmen, the teaching and learning activities for 1st semester courses will be adjusted accordingly. Assessment methods and weighting may also be adjusted which would be announced by the teachers at class. Written examination (if any) may be extended beyond the Xmas and the New Year holidays, up to January 5, 2013 if necessary.

^ Availability of courses in 2013-2014 is subject to change.

SECTION IV Equivalency of HKDSE and other qualifications

HKDSE	Crede	Equivalent Qualification to 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 fulfillment of all		
Mathematics	2 or above	Mathematics (SL)/Mathematical Studies (SL)	Mathematics (AL)	Mathematics Level 1 or 2		HKDSE requirements		
Mathematics + (M1 or M2)	2 or above	Mathematics (HL)/Mathematical Studies (HL)	Pure Mathematics (AL) Further Mathematics (AL)		Calculus AB or BC			

Table of Equivalence between HKDSE and Other Qualifications

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 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.

Programme Title	BSc in Actuarial Science
Offered to students admitted to Year 1 in	2012

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:

(1) understand and apply various analytic and quantitative methods to define and solve problems in insurance, finance, economics, investment, pension, financial risk management and demography

(by means of coursework and tutorial classes and/or research-based project in the curriculum)

(2) understand and identify the nature of insurance, finance and investment risks

(by means of coursework and tutorial classes and/or research-based project in the curriculum)

(3) develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues

(by means of coursework and tutorial classes and/or research-based project in the curriculum)

(4) formulate effective business strategies to manage various kinds of risk

(by means of coursework and tutorial classes and/or research-based project in the curriculum)

(5) communicate and collaborate with people effectively on issues related to actuarial science

(by means of coursework and tutorial classes and/or research-based project in the curriculum)

(6) pass the early professional examinations organized by international actuarial organizations, and pursue postgraduate studies in actuarial science or other related fields

(by means of coursework and tutorial classes and/or research-based project in the curriculum)

(7) 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 Combination:

Minor in Actuarial Studies

Required courses (144 credits)

1. Year 1 Courses

Core courses (42 credits):

ACCT1101	Introduction to accounting (6)
ECON1210	Introduction to economics I (6)
ECON1220	Introduction to economics II (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	

Core courses (42 credits):

COMP1117 Computer programming I (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

Core courses (30 credits):

STAT3907	Linear models and forecasting (6)
STAT3908	Credibility theory and loss distributions (6)
STAT3909	Advanced life contingencies (6)
STAT3910	Financial economics I (6)
STAT3911	Financial economics II (6)

4. Year IV Courses

At least 24 credits selected from the following courses:

STAT3602	Statistical inference (6)
STAT3612	Data mining (6)
STAT3616	Advanced SAS programming (6)
STAT3951	Advanced contingencies (6)
STAT3952	Investment and asset management (6)
STAT3953	Fundamentals of actuarial practice (6)
STAT3954	Current topics in actuarial science (6)
STAT3955	Survival analysis (6)
STAT3956	Pension funds and pension mathematics (6)
STAT4602	Multivariate data analysis (6)
STAT4607	Credit risk analysis (6)
STAT4608	Market risk analysis (6)
STAT4901	Risk theory II (6)

STAT4902 Selected topics in actuarial science (6)

5. Capstone requirement (6 credits)

At least 6 credits selected from the following courses:

- STAT4971 Project in statistics and actuarial science (6)
- STAT4972 Internship in actuarial science (6)

Notes:

1. Students should be in full-time status for at least 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:

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

SECTION VI Course Descriptions

CAES1000 Core Unive		- , ,	Academic Ye			
Offering Department	English		Quota			
Course Co-ordinator		Mr P D Desloge, English (pdesloge@hkucc.hku.hk)				
Teachers Involved	Mr P D D	Mr P D Desloge, Centre for Applied English Studies				
Course Objectives	T 0					
Course Contents & Topic:	proficience for the C spoken a manner a also com vocabula students	The Core University English (CUE) course aims to enhance first-year students' academic English language proficiency in the university context. CUE focuses on developing students' academic English language skills for the Common Core Curriculum. These include the language skills needed to understand and produce spoken and written academic texts, express academic ideas and concepts clearly and in a well-structured manner and search for and use academic sources of information in their writing and speaking. Students wi also complete four online-learning modules through the Moodle platform on academic grammar, academic vocabulary, citation and referencing skills and understanding and avoiding plagiarism. This course will help students to participate more effectively in their first-year university studies in English, thereby enriching the first-year experience.				
Course Learning	On succe	essful completion of the course, students sho	uld be able to:			
Outcomes	demonstr 2. Form a 3. Argue speaking	 Identify and distinguish between main ideas and supporting details in lectures and written texts a demonstrate an understanding of the arguments / facts expressed; Form and express personal opinions through critical reading and listening; Argue for and defend a position in a clear and structured way using academic sources, through writing speaking; and Demonstrate control of grammatical accuracy and lexical appropriacy in academic communication. 				
Pre-requisites (and Co-requisites and Impermissible combination)	NIL					
Offer in 2012 - 2013	Y 1s	t sem 2nd sem	Examination	Dec May		
Offer in 2013 - 2014	Y					
Course Grade	A+ to F					
Grade Descriptors	A	Excellent to outstanding result. Students are able appropriately structured. Students can clearly and o position. Students always use appropriate academi reference correctly at all times. Students demonstr written texts. Written language contains very few, if is always comprehensible and fluent.	concisely explain academic concepts and concepts and concepts to support their ideas in writing a rate an ability to fully comprehend and criticate and cri	itically argue for a detailed nd speaking. They cite and cally interpret spoken and		
	В	B Good to very good result. Students are able to produce spoken and written academic texts which are appropriately structured with only minor errors. Students can almost always clearly and concisely explain academic concepts and almost always critically argue for a detailed position. Students almost always use appropriate academic sources to support their ideas in writing and speaking. They cite and reference correctly with only a few non-systematic errors. Students can comprehend and interpret texts with ease, although they may miss some implied meanings and opinions. Written language is mostly accurate but contains a few systematic errors in complex grammar and vocabulary. Spoken language is mostly comprehensible and fluent.				
	C	Satisfactory to reasonably good result. Spoken and structured but there is some evidence of this abili academic concepts. While they can argue for a pos Students sometimes use sources which are nonau speaking. There are some systematic errors in ci Students have some difficulty comprehending and ci but may miss some of the writer's views and attituc they occur, are more often in complex grammar grammatical structures. Spoken language is genera	ity. Students are sometimes unable to cleation, it is not very detailed and tend to be sicademic and/or not appropriate to support tation and referencing but also evidence critically interpreting texts. They can always des. Written language is sometimes inaccur and vocabulary and there is some evidence.	arly and concisely explain mplistic rather than critical their ideas in writing and of correct systematic use understand the main ideas ate, although errors, when ence of control of simple		
	D	Barely satisfactory result. Spoken and written acac but there may be some evidence of this ability. S concepts and argue for a position. There is some e argue for a position. Students often use sources wi writing and speaking. There are many systematic understanding of some of the conventions of citatio interpreting texts, sometimes failing to understand often inaccurate containing errors in a range of sim sometimes comprehensible and fluent, and strain is	students are often unable to clearly and co vidence of an ability to explain academic c hich are nonacademic and/or not appropria errors in citation and referencing howeve on and referencing. Students often have dif the main ideas and writer's views and atti ple and complex grammar and vocabulary	processly explain academic oncepts but not to critically te to support their ideas in r there is evidence of ar ficulty comprehending and udes. Written language is		
	Fail	Unsatisfactory result. Productive skills are too l assessments. Texts are unstructured and unclear. errors in almost every sentence. Spoken langua attempted or contain plagiarism.	Students are unable to follow and interpret	texts. There are language		
Course Type		assessments. Texts are unstructured and unclear. errors in almost every sentence. Spoken langua	Students are unable to follow and interpret	texts. There are language		
Course Teaching		assessments. Texts are unstructured and unclear. errors in almost every sentence. Spoken langua attempted or contain plagiarism.	Students are unable to follow and interpret	texts. There are language ints may not have been		
Course Teaching	Lecture-b	assessments. Texts are unstructured and unclear. errors in almost every sentence. Spoken langua attempted or contain plagiarism.	Students are unable to follow and interpret age is often incomprehensible. Assessme	texts. There are language ints may not have been No. of Hour		
Course Teaching	Lecture-b Activitie Lectures	assessments. Texts are unstructured and unclear. errors in almost every sentence. Spoken langua attempted or contain plagiarism. based course	Students are unable to follow and interpret age is often incomprehensible. Assessme	texts. There are language ints may not have been No. of Hour 3		
Course Teaching	Lecture-t	assessments. Texts are unstructured and unclear. errors in almost every sentence. Spoken langua attempted or contain plagiarism. pased course es s - contact hours	Students are unable to follow and interpret age is often incomprehensible. Assessme	texts. There are languagents may not have been No. of Hour 3		
Course Type Course Teaching & Learning Activities Assessment Methods and Weighting	Lecture-t	assessments. Texts are unstructured and unclear. errors in almost every sentence. Spoken langue attempted or contain plagiarism. based course s - contact hours s - contact hours / Self study	Students are unable to follow and interpret age is often incomprehensible. Assessme	Itexts. There are languagents may not have been No. of Hour 3 Weighting in fina		
Course Teaching & Learning Activities Assessment Methods	Lecture-te Activitie Lectures Tutorials Reading	assessments. Texts are unstructured and unclear. errors in almost every sentence. Spoken langue attempted or contain plagiarism. based course es s - contact hours s - contact hours y / Self study s	Students are unable to follow and interpret age is often incomprehensible. Assessme Details	texts. There are language		

Offening D		nethods for actuarial science I (6 credits)		_		
Offering Department	Mathemat	ics		Quota		
Course Co-ordinator	Dr J T Ch	Dr J T Chan, Mathematics (jtchan@hku.hk)				
Feachers Involved	Dr J T Ch	Dr J T Chan, Mathematics				
Course Objectives	a solid ba course for	This course is the first of the two mathematics courses designed to provide actuarial science students with a solid background of calculus of one and several variables and an introduction to linear algebra. The course focuses on single variable calculus and elementary matrix theory. It aims at students with Core Mathematics plus Module 1 or Core Mathematics plus Module 2 background.				
Course Contents & Topics	 Limits, ci Mean va Bisectior Higher o Taylor aj Impropei Numeric Complex Basic ma 	 Functions; graphs; inverse functions Limits, continuity and differentiability Mean value theorem; implicit differentiation; L'Hopital's rule Bisection method and Newton's method Higher order derivatives, maxima and minima, graph sketching Taylor approximation and error estimation Improper integration, partial fractions, integration by parts Numerical integration, Trapezoidal rule and Simpson's rule Complex numbers, polar form, de Moivre's formula Basic matrix and vector (of order 2 and 3) operations, determinants Simple differential equations 				
Course Learning Outcomes	1. Describ 2. Evaluat 3. Apply a sketch gra 4. Approxi 5. Perform	 On successful completion of this course, students should be able to: 1. Describe properties of a function and an inverse function. 2. Evaluate various kinds of limits, and determine continuity and differentiability of functions. 3. Apply advanced rules/techniques of differentiation and integration to compute derivatives and integrals; sketch graphs of functions. 4. Approximate integrals by numerical methods. 5. Perform matrix and vector operations, compute determinants. 6. Solve simple first and second order ordinary differential equations. 				
Pre-requisites (and Co-requisites and Impermissible combination)		Level 4 or above in HKDSE Mathematics plus Module 1, or Level 4 or above in HKDSE Mathematics plus Module 2, or equivalent				
Offer in 2012 - 2013	Y 1st	sem		Examination	Dec	
Offer in 2013 - 2014	Y	Y				
Course Grade	A+ to F	A+ to F				
Grade Descriptors	A B	theorems and their applications through correctly analysing problems, clearly and elegantly presenting correct logical reasoning and argumentation and being able to carry out computations carefully and correctly, and with some innovative approaches to solving problems.				
	С	identifying the appropriate theorems or their applications and presentation or with some minor computational errors. Demonstrate an acceptable understanding of key concepts and ideas by being able to correctly identify appropriate theorems, but with some inadequacies in applying the theorems through incorrectly analysing problems with poor				
		argument and presentation or a number of minor computational errors. Demonstrate some understanding of key concepts and ideas by being able to correctly identify appropriate theorems, but with substantial inadequacies in applying the theorems through incorrectly analysing problems with poor argument or presentation or with substantial computational errors.				
	D	theorems, but with substantial inadequacies	in applying the theorems			
	D Fail	theorems, but with substantial inadequacies	in applying the theorems tial computational errors. anding by not being able	through incorrectly and	lysing problems with	
Course Type	Fail	theorems, but with substantial inadequacies poor argument or presentation or with substan Demonstrates poor and inadequate underst	in applying the theorems tial computational errors. anding by not being able	through incorrectly and	lysing problems with	
Course Teaching	Fail	theorems, but with substantial inadequacies poor argument or presentation or with substan Demonstrates poor and inadequate underst applications, or not being able to complete the ased course	in applying the theorems tial computational errors. anding by not being able	through incorrectly and	llysing problems with	
Course Teaching	Fail Lecture-ba	theorems, but with substantial inadequacies poor argument or presentation or with substan Demonstrates poor and inadequate underst applications, or not being able to complete the ased course	in applying the theorems tial computational errors. anding by not being able solution.	through incorrectly and	lysing problems with	
Course Teaching	Fail Lecture-ba	theorems, but with substantial inadequacies poor argument or presentation or with substan Demonstrates poor and inadequate underst applications, or not being able to complete the ased course	in applying the theorems tial computational errors. anding by not being able solution.	through incorrectly and	Ilysing problems with te theorems or their No. of Hours 36	
Course Teaching	Fail Lecture-ba Activities Lectures Tutorials	theorems, but with substantial inadequacies poor argument or presentation or with substan Demonstrates poor and inadequate underst applications, or not being able to complete the ased course - contact hours - contact hours	in applying the theorems tial computational errors. anding by not being able solution.	through incorrectly and	No. of Hours 36	
Course Teaching & Learning Activities	Fail Lecture-ba Activities Lectures Tutorials	theorems, but with substantial inadequacies poor argument or presentation or with substan Demonstrates poor and inadequate underst applications, or not being able to complete the ased course - contact hours - contact hours / Self study	in applying the theorems tial computational errors. anding by not being able solution.	through incorrectly ana through incorrectly ana to identify appropriat	No. of Hours No. of Hours 36 12 100 Veighting in fina	
Course Teaching & Learning Activities	Fail Lecture-ba Activities Lectures Tutorials Reading Methods	theorems, but with substantial inadequacies poor argument or presentation or with substan Demonstrates poor and inadequate underst applications, or not being able to complete the ased course - contact hours - contact hours / Self study	in applying the theorems tial computational errors. anding by not being able solution. Details	through incorrectly ana through incorrectly ana to identify appropriat	No. of Hours No. of Hours 36 12 100 Veighting in fina course grade (%)	
Course Teaching & Learning Activities	Fail Lecture-ba Activities Lectures Tutorials Reading Methods Examinat	theorems, but with substantial inadequacies poor argument or presentation or with substan Demonstrates poor and inadequate underst applications, or not being able to complete the ased course - contact hours - contact hours / Self study ion	in applying the theorems tial computational errors. anding by not being able solution. Details	through incorrectly ana through incorrectly ana to identify appropriat	No. of Hours No. of Hours 36 12 100 Veighting in fina course grade (%	
Course Teaching & Learning Activities	Fail Lecture-ba Activities Lectures Tutorials Reading Methods	theorems, but with substantial inadequacies poor argument or presentation or with substan Demonstrates poor and inadequate underst applications, or not being able to complete the ased course - contact hours - contact hours / Self study ion	in applying the theorems tial computational errors. anding by not being able solution. Details	through incorrectly ana through incorrectly ana to identify appropriat	No. of Hours No. of Hours 30 12 100 Veighting in fina course grade (%	
Course Type Course Teaching & Learning Activities Assessment Methods and Weighting Required/recommended reading and online materials	Fail Lecture-ba Activities Lectures Tutorials Reading Methods Examinat Assignme George B (Addison V	theorems, but with substantial inadequacies poor argument or presentation or with substant Demonstrates poor and inadequate underst applications, or not being able to complete the ased course s - contact hours - contact hours / Self study ion ents . Thomas; as revised by Maurice D.	in applying the theorems tial computational errors. anding by not being able solution. Details Details Weir and Joel Has	through incorrectly ana a to identify appropriat b to identify appropri b to identify appropriat b to identify appropr	No. of Hours No. of Hours 36 12 100 Veighting in fina course grade (% 50	

MATH2822 Mathematical	methods fo	r actuarial science II (6 credits)	Acade	mic Year	2012	
Offering Department	Mathemat	ics	Quota			
Course Co-ordinator	Dr J T Cha	Dr J T Chan, Mathematics (jtchan@hku.hk)				
Teachers Involved	Dr J T Cha	Dr J T Chan, Mathematics				
Course Objectives	with a solic course for	e is the second of the two mathematics co d background of calculus of one and sever cuses on multivariable calculus and linear a y other 2000 or 3000 level mathematics co	al variables and an intro algebra. It aims at studer	duction to li	near algebra. The	
Course Contents & Topics	 Eigenval Quadrati Vector sp Functions Gradients Taylor ap Maxima a 	 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, systems of nonlinear equations, Newton's method Maxima and minima; Lagrange multipliers Double and triple integrals, areas and volumes 				
Course Learning Outcomes	1. Unders systems o and the ra 2. Underst test for lo	ssful completion of this course, students sh tand various topics in linear algebra such f linear equations, eigenvalues and eigenv nk-nullity theorem. tand various topics in functions of several ocal extrema, Newton's method for solv Jacobians, the method of Lagrange multipl	n as the basic arithmeti ectors, diagonalizable m variables including partii ing systems of nonline	atrices, bas al differentia ar equatior	is and dimension, ation, the Hessian ns, vector-valued	
Pre-requisites (and Co-requisites and Impermissible combination)	Pass in M	ATH1821 Mathematical methods for actuar	ial science I			
Offer in 2012 - 2013	Y 2nd	sem	Exami	nation	Мау	
Offer in 2013 - 2014	Y	Υ				
Course Grade	A+ to F	A+ to F				
Grade Descriptors	 A Demonstrate an excellent understanding of key concepts and ideas by being able to identify the appropriate theorems and their applications through correctly analysing problems, clearly and elegantly presenting correct logical reasoning and argumentation and being able to carry out computations carefully and correctly, and with some innovative approaches to solving problems. B Demonstrate a good understanding of key concepts and ideas by being able to identify the appropriate theorems and their applications through correctly analysing problems, but with some minor inadequacies in arguments, identifying the appropriate theorems or their applications and presentation or with some minor computational errors. C Demonstrate an acceptable understanding of key concepts and ideas by being able to correctly identify appropriate 					
	D Demonstrate some understanding of key concepts and ideas by being able to correctly identify appropriate theorems, but with substantial inadequacies in applying the theorems through incorrectly analysing problems with poor argument or presentation or with substantial computational errors.					
	Fail	Demonstrates poor and inadequate understandi applications, or not being able to complete the solu	ng by not being able to ider	tify appropria	te theorems or their	
Course Type	Lecture-ba	ased course				
Course Teaching	Activities	s De	etails		No. of Hours	
& Learning Activities	Lectures	- contact hours			36	
	Tutorials	- contact hours			12	
	Reading /	' Self study			100	
Assessment Methods and Weighting	Methods	De	etails		Veighting in final course grade (%)	
	Examination 50					
		Assignments 55				
D						
Required/recommended reading and online materials	George B (Addison V	K Binmore and J Davies: Calculus - Concepts and Methods (Cambridge University Press, 2001) George B. Thomas; as revised by Maurice D. Weir and Joel Hass: Thomas' Calculus, 12th edition (Addison Wesley) Steven J. Leon: Linear Algebra with Applications (Pearson Prentice Hall) NIL				
		nath.hku.hk/course/MATH2822/				

credits)		foundations of actuarial science	-			
Offering Department	Statistics	and Actuarial Science		Quota		
Course Co-ordinator	Prof H L Y	Prof H L Yang, Statistics and Actuarial Science (hlyang@hku.hk)				
Teachers Involved	Prof H L Y	Prof H L Yang, Statistics & Actuarial Science				
Course Objectives	The purpose of this course is to develop knowledge of the fundamental tools in probability and statistics for quantitatively assessing risk. Applications of these tools to actuarial science problems will be emphasized. Students will have a thorough command of probability topics and the supporting calculations.					
Course Contents & Topics	 General Probability Basic elements of probability in set notation Mutually exclusive events Addition and multiplication rules Independence of events Combinatorial probability Conditional probability and expectations Bayes Theorem / Law of total probability Random variables Univariate probability distributions (including binomial, negative binomial, geometric, hypergeometric, Poisson, uniform, exponential, chi-square, beta, Pareto, lognormal, gamma, Weibull and normal) and bivariate normal distribution Probability functions and probability density functions Cumulative distribution functions Mode, median, percentiles and moments Variance and measures of dispersion Central Limit Theorem Sampling distributions and introduction of estimation 					
Course Learning Outcomes	1. Unders 2. Develo	On successful completion of this course, students should be able to: 1. Understand the mathematical theory underlying the modern practice of statistics. 2. Develop skills in probabilistic analysis for problems involving randomness. 3. Apply techniques in probability and statistics to solve actuarial science problems.				
Pre-requisites (and Co-requisites and Impermissible combination)	enrolled in (for studer Not for st	MATH1821 Mathematical methods for ac h this course) or (Pass in MATH1013 Ur hts outside the BSc(ActuarSc) program udents who have passed or enrolled in STAT1602 Business statistics, STAT2	niversity mathemation me); and any of these cours	cs II or already enro ses: STAT1601 Ele	blled in this course	
Offer in 2012 - 2013	Y 2nd	Y 2nd sem Examination May				
Offer in 2013 - 2014	Y	Υ				
Course Grade	A+ to F	A+ to F				
Grade Descriptors	Α	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 k outcomes. Show evidence of some coherent Show limited ability to apply knowledge to s presentational skills.	t and logical thinking, b	ut with limited analytica	I and critical abilities.	
	Fail	Demonstrate little or no evidence of commar outcomes. Lack of analytical and critical abiliti knowledge to solve problems. Organization an	ies, logical and coherent	thinking. Show very little	e or no ability to apply	
Course Type	Lecture-ba	ased course				
Course Teaching	Activitie	s	Details		No. of Hours	
& Learning Activities		- contact hours			36	
				classes	12	
	Reading / Self study 100					
Assessment Methods and Weighting	Methods Details		Details		Veighting in fina course grade (%	
	Examination				7	
	Assignments 25					
Required/recommended reading and online materials	 Miller & M. Miller: John E. Freund's Mathematical Statistics with applications (Pearson Education International, 2004, 7th edition) M. A. Bean: Probability: The Science of Uncertainty with Applications to Investments, Insurance, an Engineering (Brooks/Cole, Thomas Learning) S. Ghahramani: Fundamentals of Probability, with Stochastic Processes (2005, 3rd edition) M. Hassett & D. Stewart: Probability for Risk Management (2006, 2nd edition) 					

	S.M. Ross: A First Course in Probability (2005, 7th edition) D. Wackerly, W. Mendenhall III & R. Scheaffer: Mathematical Statistics with Applications (2008, 7th edition)
Course Website	webct.hk.hk

STAT2902 Financial mathe	matics (6 o	credits)		Academic Year	2012
Offering Department	Statistics a	Statistics and Actuarial Science Quota			
Course Co-ordinator	Prof K C Yuen, Statistics and Actuarial Science (kcyuen@hku.hk)				
Teachers Involved	Prof K C Yuen, Statistics & Actuarial Science				
Course Objectives	This course introduces the fundamental concepts of financial mathematics which plays an important role in the development of basic actuarial techniques. Practical applications of these concepts are also covered.				
Course Contents & Topics	Key topics include: measurement of interest, annuities certain; discounted cash flow analysis; yield rates; amortization schedules and sinking funds; bonds and related securities; practical applications such as real estate mortgage and short sales; stochastic approaches to interest; and key terms of financial analysis such as yield curves, spot rates, forward rates, duration, convexity, and immunization.				
Course Learning Outcomes	On successful completion of this course, students should be able to:				
	 Learn st Do simp Learn th short sales Quote in 	 Understand the fundamental concepts of financial mathematics. Learn standard actuarial notations for a variety of annuities. Do simple discounted cashflow analysis using basic annuities. Learn the operations of some commonly-encountered financial instruments such as bonds, mortgages, short sales, and so on. Quote interest in various modes and determine interest rate based on a series of financial transactions. De al with Exam FM of the Society of Actuaries. 			
Pre-requisites (and Co-requisites and Impermissible combination)	course; an	idents who have passed in STAT36			,
Offer in 2012 - 2013	Y 2nd	sem		Examination	May
Offer in 2013 - 2014	Y	Υ			
Course Grade	A+ to F	A+ to F			
Grade Descriptors	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 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 con outcomes. Lack of analytical and critical a knowledge to solve problems. Organization	abilities, logical and coherent	thinking. Show very little	e or no ability to apply
Course Type	Lecture-ba	ased course			
Course Teaching	Activities	5	Details		No. of Hours
& Learning Activities	Lectures	- contact hours			36
	Tutorials	- contact hours	tutorials/example of	lasses	12
	Reading / Self study				100
Assessment Methods and Weighting	Methods		Details		Veighting in fina course grade (%)
	Examination				75
	Assignments				25
Required/recommended reading and online materials	Assignments 2 Kellison, S. G.: The Theory of Interest (Irwin: Illinois, 2008, 3rd edition) 3 Broverman, S. A.: Mathematics of Investment and Credit (ACTEX Publications - Mad River Books Connecticut, 2004, 3rd edition) 3			lad River Books:	
	webct.hk.hk				

<u>SECTION VII</u> Degree Regulations

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

These regulations apply to students admitted under the 4-year '2012 curriculum' to the BSc in Actuarial Science degree curriculum in the academic year 2012-2013 and thereafter. (See also General Regulations and Regulations for First Degree Curricula)

Definitions

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

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

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

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

Admission to the BSc in Actuarial Science degree

- AS2 To be eligible for admission to the BSc in Actuarial Science degree, candidates shall:
- (a) comply with the General Regulations;
- (b) comply with the Regulations for First Degree Curricula; and
- (c) satisfy all the requirements of the curriculum in accordance with these regulations and the syllabuses.

Period of study

AS3 The curriculum for the BSc(ActuarSc) degree shall normally require eight semesters of fulltime 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.

¹ 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 144 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 144 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:

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 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 0.05 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

These regulations are applicable to candidates admitted under the 4-year '2012 curriculum' to the first year of first degree curricula in 2012-13 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.

⁶Minor 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.

¹ These regulations are applicable to candidates admitted 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) to the first year of first degree curricula in 2012-13 and thereafter. 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.

⁽Please refer to the Calendar for 2011-12 for the Regulations for First Degree Curricula applicable to cohorts admitted in 2010-11 and 2011-12 under the 3-year '2010 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:

 $GPA = \frac{\sum_{i} Course \ Grade \ Point \times Course \ Credit \ Value}{\sum_{i} Course \ Credit \ Value}$ (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 elsewhere before admission to the University. 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, selecting not more than one course from the same Area of Inquiry within one academic year and at least one and not more than two courses from each Area of Inquiry⁵ during the whole period of study; 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

- (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.

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.

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+	ו	5 11	4.3
А	}	Excellent	4.0
A-	J		3.7
B+	ו		3.3
В	}	Good	3.0
В-	J		2.7
C+	٦		2.3
С	}	Satisfactory	2.0
C-	J		1.7
D+	l	Pass	1.3
D	ſ	1 455	1.0
F		Fail	0

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

⁶ UG 8 is not applicable to the BDS and MBBS curricula.

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:

<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 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 0.05 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.

Teaching Weeks 2012-2013 for Undergraduate and Taught Postgraduate Students

	SUN	MON	TUE	WED	THUR	FRI	SAT	Week No
	2	3	4	5	6	7	1	1 2
	2 9	5 10	4	5 12	13	14	8 15	3
SEP-12	16	10	18	12	20	21	22	4
	23	24	25	26	20 27	28	29	5
	30							
	-	[1]	[2]	3	4	5	6	6
OCT-12	7 14	8 15	9 16	10 17	11 18	12 19	13 20	7 8
001-12	21	22	[23]	24	25	26	20 27	9
	28	29	30					10 (Reading)
		-	<i>.</i>	-	1	2	3	11
NOV-12	4 11	5 12	6 13	7 14	8 15	9 16	10 17	11 12
10 1 12	18	12	20	21	22	23	24	12
	25	26	27	28	29	30		14
	2	2	4	Ę	6	7	1	15
	2 9	3 10	4	5 12	6 13	7 14	8 15	15 16 (Revision)
DEC-12	16	10 17	11	12 19	20	21	22	10 (Revision) 17
	23	(24)	[25]	[26]	20	28	22	18
	30	<31>	[20]	[=0]		20	_2	10
			[1]	2	3	4	5	19
JAN-13	6 13	7 14	8 15	9 16	10 17	11 18	12 19	20 (Break) 21 (Break)
JAN-13	20	21	22	23	24	25	26	21 (Break) 22
	27	28	29	30	31			23
					_	1	2	
EED 12	3	4	5	6	7	8	9	24 25 (Suppose
FEB-13	10 17	[11] 18	[12] 19	[13] 20	14 21	15 22	16 23	25 (Suspension 26
	24	25	26	27	28			27
MAR-13			_		-	1	2	•
	3 10	4	5 12	6 13	7 14	8 15	9 (16)	28 29 (Reading)
	10	18	19	20	21	22	23	30
	24	25	26	27	28	[29]	[30]	31
	31	[1]	2	3	[4]	5	6	32
	7	8	2 9	10	11	12	13	32
APR-13	14	15	16	17	18	19	20	34
	21	22	23	24	25	26	27	35
	28	29	30	[1]	2	3	4	36
	5	6	7	8	9	10	'n	37 (Revision
MAY-13	12	13	14	15	16	[17]	18	38
	19 26	20 27	21 28	22 29	23 30	24 31	25	39 40
	20	21	20	27	50	51	1	40
	2	3	4	5	6	7	8	41 (Break)
JUN-13	9	10	11	[12]	13	14	15	42 (Break)
	16 23	17 24	18 25	19 26	20 27	21 28	22 29	43 (Break) 44 (Break)
	30	24	25	20	21	20	2)	44 (Dicak)
		[1]	2	3	4	5	6	45
HH 12	7	8	9	10	11	12	13	46
JUL-13	14	15	16	17	18	19	20	47
	21 28	22 29	23 30	24 31	25	26	27	48 49
					1	2	3	-
	4	5	6	7	8	9	10	50
AUG-13	11	12 19	13	14	15 22	16 23	17	51 52
	18 25	26	20	21 28	22	30	24 31	53 (Break)
1.0		20	2,					
] General					Reading/ H	-	Week	
) Univers	sity Holida	ay (Full Day	y)		Revision F	Period		
<> Unive	rsity Holid	day (afterno	on only)		Class Susp	ension Pe	riod for the	Lunar New Year
					Assessmer	nt Period		

2	
3	FIRST SEMESTER: SEP 17, 2012 - JAN 5, 2013
4	First Day of Teaching: Sep 17, 2012
5	,
6	
7	
8	
9	
0 (Reading)	Reading/ Field Trip Week: Oct 29 - Nov 3
11	
12	
13	
14	
15	Last Day of Teaching: Dec 8, 2012
6 (Revision)	Revision Period: Dec 10 - 14
17	Assessment Period: Dec 15 - Dec 22 *
18	(up to Jan 5, 2013, if needed)
19	
20 (Break)	
21 (Break)	SECOND SEMESTER: JAN 21 - JUN 1, 2013
22 23	First Day of Teaching: Jan 21, 2013
25	
24	Class Suspension Period for the Lunar New Year: Feb 9 - 15
(Suspension)	
26	
27	
28	
9 (Reading)	Reading/ Field Trip Week: Mar 11 - 16
30	
31	
32	
33	
34	
35	
36	
7 (Revision)	Last Day of Teaching: May 4, 2013 Revision Period: May 6 - 11
38	Assessment Period: May 13 - Jun 1
39	rissessment renou, may 15 sun r
40	
41 (Break)	
41 (Break) 42 (Break)	
43 (Break)	
44 (Break)	
. ,	OPTIONAL SUMMER SEMESTER: JUL 2 - AUG 24, 2013
45	
46	
47	
48	

Notes:

First Semester: 10 Mondays, 9 Tuesdays, 11 Wednesdays, Thursdays, Fridays and Saturdays Second Semester: 12 Mondays, 13 Tuesdays, 12 Wednesdays, Thursdays, Fridays and Saturdays

* Depending on the papers to be examined, if possible, assessment period will end on Dec 22, but if necessary, it will extend beyond the Christmas and the New Year Holidays, up to Jan 5

Assessment Period (if necessary)

Faculty of Science	Office Location	:	G12, Ground Floor, Chong Yuet Ming Physics Building			
	Tel		2859 2683			
	Fax	:	2858 4620			
	Email		science@hku.hk			
	Website	:	http://www.scifac.hku.hk/			
		•				
	(Please visit <u>http://www.scifac.hku.hk/</u> for the latest updates of BSc courses, timetables, notices and forms)					
Departments/School						
Biochemistry	Website	:	http://www.biochem.hku.hk/			
Biological Sciences	Website	:	http://www.biosch.hku.hk/			
Chemistry	Website	:	http://chem.hku.hk/			
Earth Sciences	Website	:	http://www.earthsciences.hku.hk/			
Mathematics	Website	:	http://www.math.hku.hk/			
Physics	Website	:	http://www.physics.hku.hk/			
Statistics and Actuarial Science	Website	:	http://www.saasweb.hku.hk/			
Acadomic Advising Office	Tal		2240 4696			
Academic Advising Office	Tel	:				
	Website	:	http://aao.hku.hk			
Academic Services Office	Office Location	:	G4, Run Run Shaw Building			
	Tel	:	2859 2433			
	Fax	:	2540 1405			
	Email	:	asoffice@hku.hk			
	Website	:	http://www.asa.hku.hk/			
Common Core courses	Website	•	http://commoncore.hku.hk			
HKU Worldwide Undergraduate Exchange Programme	Website	:	http://www.als.hku.hk/admission/exchange/			
Centre of Development and	Tel	:	2859 2305			
Resources for Students (CEDARS)	Website	:	http://cedars.hku.hk			
University Health Service	Tel	:	2859 2501 (General enquiries)			
			2549 4686 (Medical appointments only)			
	Website	:	http://www.uhs.hku.hk/			
Plagiarism	Website		http://www.hku.hk/plagiarism			