BSc in Actuarial Science

Syllabuses and Regulations

2021-2022

Faculty of Science
The University of Hong Kong
SECTION I  Objectives and Learning Outcomes

Degree  :  Bachelor of Science in Actuarial Science

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

Learning Outcomes of Actuarial Science Programme

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

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

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

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

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

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

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

#### Course Code

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credit</th>
<th>Prerequisite</th>
<th>Available in Semester offered in 2021-2022</th>
<th>Exam held in 2021-2022</th>
<th>Quota</th>
<th>Course Coordinator</th>
<th>Major / Minor (The Major/Minor that this course appears as.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAES1000</td>
<td>Core University English</td>
<td>6</td>
<td>NIL</td>
<td>Y Y 1, 2</td>
<td>No exam</td>
<td>---</td>
<td>Dr P Wong (1st sem); Dr A Yau (2nd sem), English</td>
<td>Disciplinary Core Course</td>
</tr>
<tr>
<td>CAES9820</td>
<td>Academic English for science students</td>
<td>6</td>
<td>NIL</td>
<td>Y Y 1, 2</td>
<td>No exam</td>
<td>---</td>
<td>Mr S D Boynton, English</td>
<td>Disciplinary Core Course</td>
</tr>
<tr>
<td>CAES9821</td>
<td>Professional and technical communication for mathematical sciences</td>
<td>6</td>
<td>NIL</td>
<td>Y Y 1, 2</td>
<td>No exam</td>
<td>---</td>
<td>Mr S D Boynton, English</td>
<td>Disciplinary Core Course</td>
</tr>
<tr>
<td>CSCI9001</td>
<td>Practical Chinese for science students</td>
<td>6</td>
<td>NIL</td>
<td>Y Y 1, 2</td>
<td>Dec, May</td>
<td>---</td>
<td>Mr K W Wong, Chinese</td>
<td>Disciplinary Core Course</td>
</tr>
</tbody>
</table>

#### Department of Mathematics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credit</th>
<th>Prerequisite</th>
<th>Available in Semester offered in 2021-2022</th>
<th>Exam held in 2021-2022</th>
<th>Quota</th>
<th>Course Coordinator</th>
<th>Major / Minor (The Major/Minor that this course appears as.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH1821</td>
<td>Mathematical methods for actuarial science I</td>
<td>6</td>
<td>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.</td>
<td>Y Y 1</td>
<td>Dec</td>
<td>---</td>
<td>Dr C W Wong, Mathematics</td>
<td>Disciplinary Core Course</td>
</tr>
<tr>
<td>MATH2822</td>
<td>Mathematical methods for actuarial science II</td>
<td>6</td>
<td>Pass in MATH1821, For BSc(ActuarSc) students only.</td>
<td>Y Y 2</td>
<td>May</td>
<td>---</td>
<td>Dr T W Chung, Mathematics</td>
<td>Disciplinary Core Course</td>
</tr>
</tbody>
</table>

#### Department of Statistics & Actuarial Science

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credit</th>
<th>Prerequisite</th>
<th>Available in Semester offered in 2021-2022</th>
<th>Exam held in 2021-2022</th>
<th>Quota</th>
<th>Course Coordinator</th>
<th>Major / Minor (The Major/Minor that this course appears as.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT2901</td>
<td>Probability and statistics: foundations of actuarial science</td>
<td>6</td>
<td>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</td>
<td>Y Y 2</td>
<td>May</td>
<td>---</td>
<td>Prof S M S Lee, Statistics &amp; Actuarial Science</td>
<td>Disciplinary Core Course</td>
</tr>
<tr>
<td>STAT2902</td>
<td>Financial mathematics</td>
<td>6</td>
<td>Pass in STAT2901, or already enrolled in this course; and Not for students who have passed in STAT3615, or already enrolled in this course.</td>
<td>Y Y 2</td>
<td>May</td>
<td>---</td>
<td>Prof K C Yuen, Statistics &amp; Actuarial Science</td>
<td>Disciplinary Core Course</td>
</tr>
<tr>
<td>STAT3602</td>
<td>Statistical inference</td>
<td>6</td>
<td>Pass in STAT2602 or STAT3602</td>
<td>Y Y 1</td>
<td>Dec</td>
<td>---</td>
<td>Prof S M S Lee, Statistics &amp; Actuarial Science</td>
<td>Disciplinary Core Course</td>
</tr>
<tr>
<td>STAT3612</td>
<td>Statistical machine learning</td>
<td>6</td>
<td>Pass in STAT2602 or (STAT1603 and any University level 2 course) or STAT3602; and</td>
<td>Y Y 1</td>
<td>No exam</td>
<td>---</td>
<td>Dr C Wang, Statistics &amp; Actuarial Science</td>
<td>Disciplinary Core Course</td>
</tr>
</tbody>
</table>

* 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 2022-2023 is subject to change.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Delivery Format</th>
<th>Faculty</th>
<th>Major in Decision Analytics</th>
<th>Major in Risk Management</th>
<th>Minor in Risk Management</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Delivery Format</th>
<th>Faculty</th>
<th>Major in Decision Analytics</th>
<th>Major in Risk Management</th>
<th>Minor in Risk Management</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Delivery Format</th>
<th>Faculty</th>
<th>Major in Decision Analytics</th>
<th>Major in Risk Management</th>
<th>Minor in Risk Management</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Delivery Format</th>
<th>Faculty</th>
<th>Major in Decision Analytics</th>
<th>Major in Risk Management</th>
<th>Minor in Risk Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT3903</td>
<td>Stochastic models</td>
<td>6</td>
<td>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.</td>
<td>Y Y 2 May ---</td>
<td>Dr K Zhu, Statistics &amp; Actuarial Science</td>
<td>BSc in Actuarial Science (2021,2020,2019,2018,2017,2016,2015,2014)</td>
<td>Minor in Actuarial Studies (2021,2020,2019,2018,2017,2016,2015,2014)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Delivery Format</th>
<th>Faculty</th>
<th>Major in Decision Analytics</th>
<th>Major in Risk Management</th>
<th>Minor in Risk Management</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Delivery Format</th>
<th>Faculty</th>
<th>Major in Decision Analytics</th>
<th>Major in Risk Management</th>
<th>Minor in Risk Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT3905</td>
<td>Introduction to financial derivatives</td>
<td>6</td>
<td>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.</td>
<td>Y Y 1 Dec ---</td>
<td>Dr K C Cheung, Statistics &amp; Actuarial Science</td>
<td>BSc in Actuarial Science (2021,2020,2019,2018,2017,2016,2015,2014)</td>
<td>Minor in Actuarial Studies (2021,2020,2019,2018,2017,2016,2015,2014)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Delivery Format</th>
<th>Faculty</th>
<th>Major in Decision Analytics</th>
<th>Major in Risk Management</th>
<th>Minor in Risk Management</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Delivery Format</th>
<th>Faculty</th>
<th>Major in Decision Analytics</th>
<th>Major in Risk Management</th>
<th>Minor in Risk Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Prerequisites</td>
<td>Exam</td>
<td>Department &amp; Faculty</td>
<td>Course Year</td>
<td>Notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>------</td>
<td>----------------------</td>
<td>-------------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAT3910</td>
<td>Financial economics I</td>
<td>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 FINA2522, or have already enrolled in this course.</td>
<td>Y Y</td>
<td>1 Dec</td>
<td>Prof H L Yang, Statistics &amp; Actuarial Science</td>
<td>BSc in Actuarial Science (2021,2020,2019,2018,2017,2016,2015,2014)</td>
<td>Minor in Actuarial Studies (2021,2020,2019,2018,2017,2016,2015,2014)</td>
<td></td>
</tr>
<tr>
<td>STAT3962</td>
<td>Investment and asset management</td>
<td>Pass in STAT3901; and Not for students who have passed in FINA2520, or have already enrolled in this course; and For BSc(Actuarial Science) students only.</td>
<td>N N</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>STAT3954</td>
<td>Current topics in actuarial science</td>
<td>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.</td>
<td>N N</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>
### List of BSc(ActuarSc) Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Exams</th>
<th>Exam Details</th>
<th>Course Coordinator</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT3956</td>
<td>Pension funds and pension mathematics</td>
<td>6</td>
<td>Pass in STAT3909; and For BSc(Actuarial Science) students only.</td>
<td>Y</td>
<td>Y</td>
<td>1 Dec</td>
<td>---</td>
</tr>
<tr>
<td>STAT4602</td>
<td>Multivariate data analysis</td>
<td>6</td>
<td>Pass in STAT3600 or STAT3907</td>
<td>Y</td>
<td>Y</td>
<td>2 May</td>
<td>50</td>
</tr>
<tr>
<td>STAT4607</td>
<td>Credit risk analysis</td>
<td>6</td>
<td>Pass in STAT3618 or STAT3905 or STAT3910 or (FINA2322 and any University level 3 course)</td>
<td>Y</td>
<td>Y</td>
<td>2 May</td>
<td>---</td>
</tr>
<tr>
<td>STAT4608</td>
<td>Market risk analysis</td>
<td>6</td>
<td>Pass in STAT3907 and STAT3910; or Pass in STAT4601 and (FINA2320 or STAT3609)</td>
<td>Y</td>
<td>Y</td>
<td>2 May</td>
<td>---</td>
</tr>
<tr>
<td>STAT4711</td>
<td>Capstone experience for actuarial science students</td>
<td>6</td>
<td>Pass in at least 24 credits of advanced level disciplinary core/elective courses in BSc(Actuarial Science) programme including (Pass in STAT3951, 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.</td>
<td>Y</td>
<td>Y, No exam</td>
<td>1, 2 No exam</td>
<td>---</td>
</tr>
</tbody>
</table>

### My Contributions
- Pass in STAT3600 or STAT3901; Not for students who have passed in STAT3955, or already enrolled in this course.

### Notes
- Pass in STAT3909; and For BSc(Actuarial Science) students only.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Exam</th>
<th>Instructor</th>
<th>Department</th>
<th>Year Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4767</td>
<td>Actuarial science internship</td>
<td>6</td>
<td>Pass in at least 24 credits of advanced level disciplinary core/elective courses in BSc(Actuarial Science) programme including STAT3901; and This capstone course is only for BSc (Actuarial Science) students; and is mutually exclusive with STAT4711. The earliest that a student is allowed to take this capstone course is their year 3 study.</td>
<td>Y</td>
<td>Y 1, 2</td>
<td>---</td>
<td>BSc in Actuarial Science (2021,2020,2019,2018,2017,2016,2015,2014)</td>
</tr>
<tr>
<td>STAT4798</td>
<td>Statistics and actuarial science project</td>
<td>6</td>
<td>Pass in at least 24 credits of advanced level disciplinary core/elective courses in BSc(Actuarial Science) programme including STAT3902 and STAT3907; and Pass or already enrolled in at least one of the following courses: STAT3911, STAT4902, STAT4904; and This capstone course is only for BSc (Actuarial Science) students; and subject to the consent of course coordinator. This course is mutually exclusive with STAT4711. The earliest that a student is allowed to take this capstone course is their year 3 study.</td>
<td>Y</td>
<td>Y 1, 2</td>
<td>No exam</td>
<td>50</td>
</tr>
<tr>
<td>STAT4904</td>
<td>Statistical learning for risk modelling</td>
<td>6</td>
<td>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.</td>
<td>Y</td>
<td>Y 2</td>
<td>May</td>
<td>---</td>
</tr>
</tbody>
</table>
### Table of Equivalence between HKDSE and Other Qualifications

<table>
<thead>
<tr>
<th>HKDSE</th>
<th>Grade</th>
<th>Equivalent Qualification to HKDSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>3 or above</td>
<td>Biology (SL/HL)</td>
</tr>
<tr>
<td>Chemistry</td>
<td>3 or above</td>
<td>Chemistry (SL/HL)</td>
</tr>
<tr>
<td>Physics</td>
<td>3 or above</td>
<td>Physics (SL/HL)</td>
</tr>
<tr>
<td>Mathematics</td>
<td>2 or above</td>
<td>Mathematics (SL)/Mathematical Studies (SL)</td>
</tr>
<tr>
<td>Mathematics + (M1 or M2)</td>
<td>2 or above</td>
<td>Mathematics (HL)/Mathematical Studies (HL)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**Remarks:**

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

For other non-science students admitted through non-JUPAS scheme, they are still required to obtain the approval (written/via email) 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

**Programme Title:** BSc in Actuarial Science  

**Offered to students admitted to Year 1 in:** 2021

## Objectives:

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

## Learning Outcomes:

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

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

## Impermissible Combinations:

Minor in Actuarial Studies

### Required courses (132 credits)

#### 1. Year I Courses

**Disciplinary Core Courses (42 credits)**

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

#### 2. Year II Courses

**Disciplinary Core Courses (42 credits)**

- COMP1117 Computer programming (6)
- STAT3901 Life contingencies I (6)  
  [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)
- STAT3908 Credibility theory and loss distributions (6)
- STAT3909 Life contingencies II (6)  
  [previous title: Advanced life contingencies (6)]
- STAT3910 Financial economics I (6)
- STAT4904 Statistical learning for risk modelling (6)

#### 4. Year IV Courses

**Disciplinary Electives (12 credits)**

At least 12 credits selected from the following courses:

- STAT3911 Financial economics II (6)
- STAT3951 Further topics in contingencies (6)  
  [previous title: Advanced contingencies (6)]
- STAT3953 Fundamentals of actuarial practice (6)
- STAT3954 Current topics in actuarial science (6)
- STAT3956 Pension funds and pension mathematics (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)

- Statute BSc(ActuarSc) Programme

---

**SECTION V**  

**BSc(ActuarSc) Programmes on offer in 2021/2022**
**Notes:**
1. Students are expected to be in full-time status for eight academic semesters (in addition to their 6-month or longer full-time internships) in order to fulfill the degree requirements.

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

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

---

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4711</td>
<td>Capstone experience for actuarial science undergraduates</td>
<td>6</td>
</tr>
<tr>
<td>STAT4767</td>
<td>Actuarial science internship</td>
<td>6</td>
</tr>
<tr>
<td>STAT4798</td>
<td>Statistics and actuarial science project</td>
<td>6</td>
</tr>
</tbody>
</table>
Programme Title: BSc in Actuarial Science
Offered to students admitted to Year 1 in 2020

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

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

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

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

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

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

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

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

Impermissible Combinations:
Minor in Actuarial Studies

Required courses (132 credits)

1. Year I Courses
   Disciplinary Core Courses (42 credits)
   - ACCT1101 Introduction to financial accounting (6)
   - ECON1210 Introductory microeconomics (6)
   - ECON1220 Introductory macroeconomics (6)
   - MATH1821 Mathematical methods for actuarial science I (6)
   - MATH2822 Mathematical methods for actuarial science II (6)
   - STAT2901 Probability and statistics: foundations of actuarial science (6)
   - STAT2902 Financial mathematics (6)

2. Year II Courses
   Disciplinary Core Courses (42 credits)
   - COMP1117 Computer programming (6)
   - STAT3901 Life contingencies I (6)
   - STAT3902 Statistical models (6)
   - STAT3903 Stochastic models (6)
   - STAT3904 Corporate finance for actuarial science (6)
   - STAT3905 Introduction to financial derivatives (6)
   - STAT3907 Linear models and forecasting (6)

3. Year III Courses
   Disciplinary Core Courses (30 credits)
   - STAT3906 Risk theory I (6)
   - STAT3908 Credibility theory and loss distributions (6)
   - STAT3909 Life contingencies II (6)
   - STAT3910 Financial economics I (6)
   - STAT4904 Statistical learning for risk modelling (6)

4. Year IV Courses
   Disciplinary Electives (12 credits)
   At least 12 credits selected from the following courses:
   - STAT3911 Financial economics II (6)
   - STAT3951 Further topics in contingencies (6)
   - STAT3953 Fundamentals of actuarial practice (6)
   - STAT3954 Current topics in actuarial science (6)
   - STAT3956 Pension funds and pension mathematics (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)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4711</td>
<td>Capstone experience for actuarial science undergraduates</td>
<td>6</td>
</tr>
<tr>
<td>STAT4767</td>
<td>Actuarial science internship</td>
<td>6</td>
</tr>
<tr>
<td>STAT4798</td>
<td>Statistics and actuarial science project</td>
<td>6</td>
</tr>
</tbody>
</table>

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

**Remarks:**
Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.
Programme Title | BSc in Actuarial Science  
---|---  
Offered to students admitted to Year 1 in | 2019  
**Objectives:**  
The Actuarial Science curriculum aims at providing formal academic and professional training to students who wish to join the actuarial profession. Although actuarial science is a separate discipline with its own area of knowledge, modern actuarial training requires multidisciplinary knowledge such as probability, statistics, economics, investment, finance, law, taxation, and accounting. The Actuarial Science curriculum reflects this by incorporating various interdisciplinary courses into the basic actuarial training. The programme is set up to equip students with solid background in actuarial science, to develop their confidence and analytical skills to define and tackle problems in actuarial science and other related fields. Specifically, the programme is designed to provide adequate knowledge for students to sit for the early professional examinations organized by international actuarial organizations so that they can successfully join the actuarial profession after graduation. In addition, the programme provides enough academic training for students who wish to pursue postgraduate studies in actuarial science or other related areas.  
**Learning Outcomes:**  
By the end of this programme, students should be able to:  
PLO 1: understand and apply various analytic and quantitative methods to define and solve problems in insurance, finance, economics, investment, pension, financial risk management and demography (by means of coursework and tutorial classes and/or research-based project in the curriculum)  
PLO 2: understand and identify the nature of insurance, finance and investment risks (by means of coursework and tutorial classes and/or research-based project in the curriculum)  
PLO 3: develop analytical skills to evaluate and measure various kinds of risk, and appraise the related moral and ethical issues (by means of coursework and tutorial classes and/or research-based project in the curriculum)  
PLO 4: formulate effective business strategies to manage various kinds of risk (by means of coursework and tutorial classes and/or research-based project in the curriculum)  
PLO 5: communicate and collaborate with people effectively on issues related to actuarial science (by means of coursework and tutorial classes and/or research-based project in the curriculum)  
PLO 6: discuss current actuarial issues and acquire and apply practical knowledge in some specially designed courses (by means of coursework and tutorial classes and/or research-based project in the curriculum)  
**Impermissible Combinations:**  
Minor in Actuarial Studies  
---  
**Required courses (132 credits)**  
1. **Year I Courses**  
**Disciplinary Core Courses (42 credits)**  
- ACCT1101 Introduction to financial accounting (6)  
- ECON1210 Introductory microeconomics (6)  
- ECON1220 Introductory macroeconomics (6)  
- MATH1821 Mathematical methods for actuarial science I (6)  
- MATH2822 Mathematical methods for actuarial science II (6)  
- STAT2901 Probability and statistics: foundations of actuarial science (6)  
- STAT2902 Financial mathematics (6)  
2. **Year II Courses**  
**Disciplinary Core Courses (42 credits)**  
- COMP1117 Computer programming (6)  
- STAT3901 Life contingencies I (6)  
- STAT3902 Statistical models (6)  
- STAT3903 Stochastic models (6)  
- STAT3904 Corporate finance for actuarial science (6)  
- STAT3905 Introduction to financial derivatives (6)  
- STAT3907 Linear models and forecasting (6)  
3. **Year III Courses**  
**Disciplinary Core Courses (30 credits)**  
- STAT3906 Risk theory I (6)  
- STAT3908 Credibility theory and loss distributions (6)  
- STAT3909 Life contingencies II (6)  
- STAT3910 Financial economics I (6)  
- STAT4904 Statistical learning for risk modelling (6)  
- STAT3911 Financial economics II (6)  
- STAT3951 Further topics in contingencies (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)  
- STAT4607 Credit risk analysis (6)  
- STAT4608 Market risk analysis (6)  
- STAT4901 Risk theory II (6)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4902</td>
<td>Selected topics in actuarial science (6)</td>
<td></td>
</tr>
<tr>
<td>STAT4903</td>
<td>Actuarial techniques for general insurance (6)</td>
<td></td>
</tr>
</tbody>
</table>

5. **Capstone Requirement (6 credits)**
   At least 6 credits selected from the following courses:
   - STAT4711: Capstone experience for actuarial science undergraduates (6)
   - STAT4767: Actuarial science internship (6)
   - STAT4798: Statistics and actuarial science project (6)

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

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

**Remarks:**
Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.
Programme Title: BSc in Actuarial Science
Offered to students admitted to Year 1 in 2018

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

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

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

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

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

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

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

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

Impermissible Combinations:
Minor in Actuarial Studies

Required courses (132 credits)

1. Year I Courses
Disciplinary Core Courses (42 credits)
- ACCT1101 Introduction to financial accounting (6)
- ECON1210 Introductory microeconomics (6)
- ECON1220 Introductory macroeconomics (6)
- MATH1821 Mathematical methods for actuarial science I (6)
- MATH2822 Mathematical methods for actuarial science II (6)
- STAT2901 Probability and statistics: foundations of actuarial science (6)
- STAT2902 Financial mathematics (6)

2. Year II Courses
Disciplinary Core Courses (42 credits)
- COMP1117 Computer programming (6)
- STAT3901 Life contingencies I (6)
- STAT3902 Statistical models (6)
- STAT3903 Stochastic models (6)
- STAT3904 Corporate finance for actuarial science (6)
- STAT3905 Introduction to financial derivatives (6)
- STAT3907 Linear models and forecasting (6)

3. Year III Courses
Disciplinary Core Courses (30 credits)
- STAT3906 Risk theory I (6)
- STAT3908 Credibility theory and loss distributions (6)
- STAT3909 Life contingencies II (6)
- STAT3910 Financial economics I (6)
- STAT4904 Statistical learning for risk modelling (6)

4. Year IV Courses
Disciplinary Electives (12 credits)
At least 12 credits selected from the following courses:
- STAT3911 Financial economics II (6)
- STAT3951 Further topics in contingencies (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)
- STAT4607 Credit risk analysis (6)
- STAT4608 Market risk analysis (6)
- STAT4901 Risk theory II (6)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4902</td>
<td>Selected topics in actuarial science</td>
<td>(6)</td>
</tr>
<tr>
<td>STAT4903</td>
<td>Actuarial techniques for general insurance</td>
<td>(6)</td>
</tr>
</tbody>
</table>

5. **Capstone Requirement (6 credits)**

At least 6 credits selected from the following courses:

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

**Notes:**
1. Students are expected to be in full-time status for eight academic semesters (in 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.
Programme Title: BSc in Actuarial Science

Offered to students admitted to Year 1 in 2017

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)
   - STAT3908 Credibility theory and loss distributions (6)
   - STAT3909 Life contingencies II (6) [previous title: Advanced life 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) [previous title: Advanced 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)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4904</td>
<td>Statistical learning for risk modelling (6)</td>
</tr>
<tr>
<td>STAT3602</td>
<td>Statistical inference (6)</td>
</tr>
<tr>
<td>STAT3612</td>
<td>Statistical machine learning (6)</td>
</tr>
<tr>
<td>STAT3616</td>
<td>Advanced SAS programming (6)</td>
</tr>
<tr>
<td>STAT3953</td>
<td>Fundamentals of actuarial practice (6)</td>
</tr>
<tr>
<td>STAT4602</td>
<td>Multivariate data analysis (6)</td>
</tr>
<tr>
<td>STAT4902</td>
<td>Selected topics in actuarial science (6)</td>
</tr>
</tbody>
</table>

### 5. Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:

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

**Notes:**

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

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

**Remarks:**

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.
Programme Title: BSc in Actuarial Science
Offered to students admitted to Year 1 in 2016

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)
- MATH11821 Mathematical methods for actuarial science I (6)
- MATH11822 Mathematical methods for actuarial science II (6)
- STAT2901 Probability and statistics: foundations of actuarial science (6)
- STAT2902 Financial mathematics (6)

### 2. Year II Courses

**Disciplinary Core Courses (42 credits)**

- COMP1117 Computer programming (6)
- STAT3901 Life contingencies I (6)
- STAT3902 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 (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) [previous title: Advanced contingencies (6)]
- STAT3954 Credit risk analysis (6)
- STAT3955 Survival analysis (6)
- STAT3956 Pension funds and pension mathematics (6)
- STAT4607 Market risk analysis (6)
- STAT4901 Risk theory II (6)
- STAT4903 Actuarial techniques for general insurance (6)
List B

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4904</td>
<td>Statistical learning for risk modelling (6)</td>
</tr>
<tr>
<td>STAT3602</td>
<td>Statistical inference (6)</td>
</tr>
<tr>
<td>STAT3612</td>
<td>Statistical machine learning (6)</td>
</tr>
<tr>
<td>STAT3616</td>
<td>Advanced SAS programming (6)</td>
</tr>
<tr>
<td>STAT3953</td>
<td>Fundamentals of actuarial practice (6)</td>
</tr>
<tr>
<td>STAT4602</td>
<td>Multivariate data analysis (6)</td>
</tr>
<tr>
<td>STAT4902</td>
<td>Selected topics in actuarial science (6)</td>
</tr>
</tbody>
</table>

5. Capstone Requirement (6 credits)
At least 6 credits selected from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4711</td>
<td>Capstone experience for actuarial science undergraduates (6)</td>
</tr>
<tr>
<td>STAT4767</td>
<td>Actuarial science internship (6)</td>
</tr>
<tr>
<td>STAT4798</td>
<td>Statistics and actuarial science project (6)</td>
</tr>
</tbody>
</table>

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:
Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.
Programme Title: BSc in Actuarial Science
Offered to students admitted to Year 1 in 2015

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)
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)
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)
### List B

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4904</td>
<td>Statistical learning for risk modelling (6)</td>
</tr>
<tr>
<td>STAT3602</td>
<td>Statistical inference (6)</td>
</tr>
<tr>
<td>STAT3612</td>
<td>Statistical machine learning (6)</td>
</tr>
<tr>
<td>STAT3616</td>
<td>Advanced SAS programming (6)</td>
</tr>
<tr>
<td>STAT3953</td>
<td>Fundamentals of actuarial practice (6)</td>
</tr>
<tr>
<td>STAT4602</td>
<td>Multivariate data analysis (6)</td>
</tr>
<tr>
<td>STAT4902</td>
<td>Selected topics in actuarial science (6)</td>
</tr>
</tbody>
</table>

#### 5. Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4711</td>
<td>Capstone experience for actuarial science undergraduates (6)</td>
</tr>
<tr>
<td>STAT4767</td>
<td>Actuarial science internship (6)</td>
</tr>
<tr>
<td>STAT4798</td>
<td>Statistics and actuarial science project (6)</td>
</tr>
</tbody>
</table>

### 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:

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.
Programme Title: BSc in Actuarial Science  
Offered to students admitted to Year 1 in 2014

**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)
   - 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 (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) [previous title: Advanced 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)

24
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4904</td>
<td>Statistical learning for risk modelling</td>
<td>(6)</td>
</tr>
<tr>
<td>STAT3602</td>
<td>Statistical inference</td>
<td>(6)</td>
</tr>
<tr>
<td>STAT3612</td>
<td>Statistical machine learning</td>
<td>(6)</td>
</tr>
<tr>
<td>STAT3616</td>
<td>Advanced SAS programming</td>
<td>(6)</td>
</tr>
<tr>
<td>STAT3953</td>
<td>Fundamentals of actuarial practice</td>
<td>(6)</td>
</tr>
<tr>
<td>STAT4602</td>
<td>Multivariate data analysis</td>
<td>(6)</td>
</tr>
<tr>
<td>STAT4902</td>
<td>Selected topics in actuarial science</td>
<td>(6)</td>
</tr>
</tbody>
</table>

5. Capstone Requirement (6 credits)

At least 6 credits selected from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4711</td>
<td>Capstone experience for actuarial science undergraduates</td>
<td>(6)</td>
</tr>
<tr>
<td>STAT4767</td>
<td>Actuarial science internship</td>
<td>(6)</td>
</tr>
<tr>
<td>STAT4798</td>
<td>Statistics and actuarial science project</td>
<td>(6)</td>
</tr>
</tbody>
</table>

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

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

Remarks:
Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.
Programme Title: BSc in Actuarial Science  
Offered to students admitted to Year 1 in 2013

**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)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT1101</td>
<td>Introduction to financial accounting (6)</td>
</tr>
<tr>
<td>ECON1210</td>
<td>Introductory microeconomics (6)</td>
</tr>
<tr>
<td>ECON1220</td>
<td>Introductory macroeconomics (6)</td>
</tr>
<tr>
<td>MATH1821</td>
<td>Mathematical methods for actuarial science I (6)</td>
</tr>
<tr>
<td>MATH2822</td>
<td>Mathematical methods for actuarial science II (6)</td>
</tr>
<tr>
<td>STAT2901</td>
<td>Probability and statistics: foundations of actuarial science (6)</td>
</tr>
<tr>
<td>STAT2902</td>
<td>Financial mathematics (6)</td>
</tr>
</tbody>
</table>

#### 2. Year II Courses

**Disciplinary Core Courses (42 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP1117</td>
<td>Computer programming (6)</td>
</tr>
<tr>
<td>STAT3901</td>
<td>Life contingencies I (6)</td>
</tr>
<tr>
<td>STAT3902</td>
<td>Statistical models (6)</td>
</tr>
<tr>
<td>STAT3903</td>
<td>Stochastic models (6)</td>
</tr>
<tr>
<td>STAT3904</td>
<td>Corporate finance for actuarial science (6)</td>
</tr>
<tr>
<td>STAT3905</td>
<td>Introduction to financial derivatives (6)</td>
</tr>
<tr>
<td>STAT3906</td>
<td>Risk theory I (6)</td>
</tr>
</tbody>
</table>

#### 3. Year III Courses

**Disciplinary Core Courses (30 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT3907</td>
<td>Linear models and forecasting (6)</td>
</tr>
<tr>
<td>STAT3908</td>
<td>Credibility theory and loss distributions (6)</td>
</tr>
<tr>
<td>STAT3909</td>
<td>Life contingencies II (6)</td>
</tr>
<tr>
<td>STAT3910</td>
<td>Financial economics I (6)</td>
</tr>
<tr>
<td>STAT3911</td>
<td>Financial economics II (6)</td>
</tr>
</tbody>
</table>

#### 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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT3951</td>
<td>Further topics in contingencies (6)</td>
</tr>
<tr>
<td>STAT3954</td>
<td>Current topics in actuarial science (6)</td>
</tr>
<tr>
<td>STAT3955</td>
<td>Survival analysis (6)</td>
</tr>
<tr>
<td>STAT3956</td>
<td>Pension funds and pension mathematics (6)</td>
</tr>
<tr>
<td>STAT4607</td>
<td>Credit risk analysis (6)</td>
</tr>
<tr>
<td>STAT4608</td>
<td>Market risk analysis (6)</td>
</tr>
<tr>
<td>STAT4901</td>
<td>Risk theory II (6)</td>
</tr>
<tr>
<td>STAT4903</td>
<td>Actuarial techniques for general insurance (6)</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>STAT4904</td>
<td>Statistical learning for risk modelling</td>
</tr>
<tr>
<td>List B</td>
<td></td>
</tr>
<tr>
<td>STAT3602</td>
<td>Statistical inference</td>
</tr>
<tr>
<td>STAT3612</td>
<td>Statistical machine learning</td>
</tr>
<tr>
<td>STAT3616</td>
<td>Advanced SAS programming</td>
</tr>
<tr>
<td>STAT3953</td>
<td>Fundamentals of actuarial practice</td>
</tr>
<tr>
<td>STAT4602</td>
<td>Multivariate data analysis</td>
</tr>
<tr>
<td>STAT4902</td>
<td>Selected topics in actuarial science</td>
</tr>
</tbody>
</table>

5. Capstone Requirement (6 credits)
At least 6 credits selected from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT4711</td>
<td>Capstone experience for actuarial science undergraduates</td>
<td>(6)</td>
</tr>
<tr>
<td>STAT4767</td>
<td>Actuarial science internship</td>
<td>(6)</td>
</tr>
<tr>
<td>STAT4798</td>
<td>Statistics and actuarial science project</td>
<td>(6)</td>
</tr>
</tbody>
</table>

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:
Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the programme in order to satisfy the degree graduation requirements.
Programme Title: BSc in Actuarial Science  
Offered to students admitted to Year 1 in 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:

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)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT1101</td>
<td>Introduction to financial accounting (6)</td>
</tr>
<tr>
<td>ECON1210</td>
<td>Introductory microeconomics (6)</td>
</tr>
<tr>
<td>ECON1220</td>
<td>Introductory macroeconomics (6)</td>
</tr>
<tr>
<td>MATH1821</td>
<td>Mathematical methods for actuarial science I (6)</td>
</tr>
<tr>
<td>MATH2822</td>
<td>Mathematical methods for actuarial science II (6)</td>
</tr>
<tr>
<td>STAT2901</td>
<td>Probability and statistics: foundations of actuarial science (6)</td>
</tr>
<tr>
<td>STAT2902</td>
<td>Financial mathematics (6)</td>
</tr>
</tbody>
</table>

2. Year II Courses
Disciplinary Core Courses (42 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP1117</td>
<td>Computer programming (6)</td>
</tr>
<tr>
<td>STAT3901</td>
<td>Life contingencies I (6) [previous title: Life contingencies (6)]</td>
</tr>
<tr>
<td>STAT3902</td>
<td>Statistical models (6)</td>
</tr>
<tr>
<td>STAT3903</td>
<td>Stochastic models (6)</td>
</tr>
<tr>
<td>STAT3904</td>
<td>Corporate finance for actuarial science (6)</td>
</tr>
<tr>
<td>STAT3905</td>
<td>Introduction to financial derivatives (6)</td>
</tr>
<tr>
<td>STAT3906</td>
<td>Risk theory I (6)</td>
</tr>
</tbody>
</table>

3. Year III Courses
Disciplinary Core Courses (30 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT3907</td>
<td>Linear models and forecasting (6)</td>
</tr>
<tr>
<td>STAT3908</td>
<td>Credibility theory and loss distributions (6)</td>
</tr>
<tr>
<td>STAT3909</td>
<td>Life contingencies II (6) [previous title: Advanced life contingencies (6)]</td>
</tr>
<tr>
<td>STAT3910</td>
<td>Financial economics I (6)</td>
</tr>
<tr>
<td>STAT3911</td>
<td>Financial economics II (6)</td>
</tr>
</tbody>
</table>

4. Year IV Courses
Disciplinary Electives (18 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT3951</td>
<td>Further topics in contingencies (6) [previous title: Advanced contingencies (6)]</td>
</tr>
<tr>
<td>STAT3954</td>
<td>Current topics in actuarial science (6)</td>
</tr>
<tr>
<td>STAT3955</td>
<td>Survival analysis (6)</td>
</tr>
<tr>
<td>STAT3956</td>
<td>Pension funds and pension mathematics (6)</td>
</tr>
<tr>
<td>STAT4607</td>
<td>Credit risk analysis (6)</td>
</tr>
<tr>
<td>STAT4608</td>
<td>Market risk analysis (6)</td>
</tr>
<tr>
<td>STAT4901</td>
<td>Risk theory II (6)</td>
</tr>
<tr>
<td>STAT4903</td>
<td>Actuarial techniques for general insurance (6)</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>STAT4904</td>
<td>Statistical learning for risk modelling (6)</td>
</tr>
<tr>
<td>STAT3602</td>
<td>Statistical inference (6)</td>
</tr>
<tr>
<td>STAT3612</td>
<td>Statistical machine learning (6)</td>
</tr>
<tr>
<td>STAT3616</td>
<td>Advanced SAS programming (6)</td>
</tr>
<tr>
<td>STAT3952</td>
<td>Investment and asset management (6)</td>
</tr>
<tr>
<td>STAT3953</td>
<td>Fundamentals of actuarial practice (6)</td>
</tr>
<tr>
<td>STAT4602</td>
<td>Multivariate data analysis (6)</td>
</tr>
<tr>
<td>STAT4902</td>
<td>Selected topics in actuarial science (6)</td>
</tr>
<tr>
<td>STAT3612</td>
<td>[previous title: Data mining (6)]</td>
</tr>
</tbody>
</table>

5. **Capstone Requirement (6 credits)**

   At least 6 credits selected from the following courses:

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

**Notes:**

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

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

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:**

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.
## Course Descriptions

### CAES1000

**Core University English (6 credits)**

**Offering Department**

Centre for Applied English Studies

**Teachers Involved**

Dr P Wong (1st sem); Dr A Yau (2nd sem), English (pmtw2@hku.hk; aliceyhy@hku.hk)

**Offer in 2021 - 2022**

(Dr A Yau, Centre for Applied English Studies) (Dr P Wong, Centre for Applied English Studies)

**Course Learning Outcomes**

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

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

**Pre-requisites (and Co-requisites and Impermissible combinations)**

NIL

**Offer in 2022 - 2023**

Y 1st sem 2nd sem Offer in 2022 - 2023: Y

**Examination**

No Exam

**Course Type**

Lecture-based course

**Course Teaching & Learning Activities**

- **Activities**
  - Lectures: 30
  - Tutorials: 6
  - Reading / Self study: 84

**Assessment Methods and Weighting**

- **Methods**
  - Assignments: report, 40%
  - Essay: 30%
  - Presentation: individual presentation, 30%

**Grade Descriptors (A+ to F)**

- **A**: Excellent to outstanding result. Students are able to produce spoken and written academic texts which are at all times appropriately structured. Students can clearly and concisely explain academic concepts and critically argue for a detailed position. Students always use appropriate academic sources to support their ideas in writing and speaking. They cite and reference correctly at all times. Students demonstrate an ability to fully comprehend and critically interpret spoken and written texts. Written language contains very few, if any, systematic errors in grammar and vocabulary. Spoken language is always comprehensible and fluent.

- **B**: Good to very good result. Students are able to produce spoken and written academic texts which are appropriately structured with only minor errors. Students can almost always clearly and concisely explain academic concepts and almost always critically argue for a detailed position. Students almost always use appropriate academic sources to support their ideas in writing and speaking. They cite and reference correctly with only a few non-systematic errors. Students can comprehend and interpret texts with ease although they may miss some implied meanings and opinions. Written language is mostly accurate but contains a few systematic errors in complex grammar and vocabulary. Spoken language is mostly comprehensible and fluent.

- **C**: Satisfactory to reasonably good result. Spoken and written academic texts produced by students are sometimes not well-structured but there is some evidence of this ability. Students are sometimes unable to clearly and concisely explain academic concepts. While they can argue for a position, it is not very detailed and tend to be simplistic rather than critical. Students sometimes use sources which are nonacademic and/or not appropriate to support their ideas in writing and speaking. There are some systematic errors in citation and referencing but also evidence of correct systematic use. Students have some difficulty comprehending and critically interpreting texts. They can always understand the main ideas but may miss some of the writer’s views and attitudes. Written language is sometimes inaccurate, although errors, when they occur, are more often in complex grammar and vocabulary and there is some evidence of control of simple grammatical structures. Spoken language is generally comprehensible and fluent but at times places strain on the listener.

- **D**: Barely satisfactory result. Spoken and written academic texts produced by students are often inappropriately structured but there may be some evidence of this ability. Students are often unable to clearly and concisely explain academic concepts and argue for a position. There is some evidence of an ability to explain academic concepts but not to critically argue for a position. Students often use sources which are nonacademic and/or not appropriate to support their ideas in writing and speaking. There are many systematic errors in citation and referencing however there is evidence of an understanding of some of the conventions of citation and referencing. Students often have difficulty comprehending and interpreting texts, sometimes falling to understand the main ideas and writer’s views and attitudes. Written language is often inaccurate containing errors in a range of simple and complex grammar and vocabulary. Spoken language is only sometimes comprehensible and fluent, and strain is frequently placed on the listener.

- **Fail**: Unsatisfactory result. Productive skills are too limited to be able to successfully carry out spoken and written assessments. Texts are unstructured and unclear. Students are unable to follow and interpret texts. There are language errors in almost every sentence. Spoken language is often incomprehensible. Assessments may not have been attempted or contain plagiarism.

**Communication-intensive Course**

Y
### Course Information

**Course Title:** Academic English for science students (6 credits)  
**Offering Department:** English  
**Course Co-ordinator:** Mr S D Boynton, English  
**Teachers Involved:** Mr S D Boynton, Centre for Applied English Studies

#### Course Objectives
This 6-credit English-in-the-Discipline course aims to develop students' professional and technical communication skills for disciplinary studies in the sciences. There are three main components in the course: 1) Writing a popular science article 2) An oral presentation and 3) Independent language learning. Students will also be given an opportunity to design a personalized language learning plan, carry out the plan and reflect on their own independent language learning experience.

#### Course Contents & Topics
Topics covered in the course will be:  
- Finding, evaluating and using appropriate academic source materials;  
- Compiling an academic bibliography;  
- Contrasting academic and popular genres of Science;  
- Writing for a specific audience, including stance, shared knowledge, levels of formality; and  
- Organizing and articulating ideas in an academically suitable format including appropriate vocabulary and grammar; and
- Critically examine their own language proficiency and analyze how that relates to their ability to perform successfully within their discipline. Developing self-directed learning strategies.

#### Course Learning Outcomes
On successful completion of this course, students should be able to:  
1. Identify and summarize disciplinary sources related to a specified topic  
2. Produce texts (written and spoken) appropriate for a cross-disciplinary audience based on their disciplinary knowledge  
3. Identify their own language learning needs and implement a plan to meet those needs

#### Pre-requisites (and Co-requisites and Impermissible combinations)
NIL

<table>
<thead>
<tr>
<th>Offer in 2021 - 2022</th>
<th>Grade Descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st sem</td>
<td>2nd sem</td>
</tr>
<tr>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

#### Communication-intensive Course
Y

#### Course Type
Lecture-based course

#### Course Teaching & Learning Activities
**Activities**  
- Tutorials: seminars  
- Reading / Self study: 36 hours  
- Assessment: independent learning work  

#### Assessment Methods and Weighting
<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>independent learning work</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Essay</td>
<td>other genres of writing</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Test</td>
<td></td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

#### Required/recommended reading and online materials
Course materials to be provided electronically through course website.

#### Course Website
http://caes.hku.hk/caes9820/

#### Additional Course Information
This is a compulsory course for all students studying undergraduate degrees in the Faculty of Science.

---

### Examination

<table>
<thead>
<tr>
<th>Examination</th>
<th>Method</th>
<th>Grade Descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Exam</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CAES9821  Professional and technical communication for mathematical sciences (6 credits)  Academic Year 2021

Offering Department  English
Course Co-ordinator  Mr S D Boynton, English (sboynton@hku.hk)
Teachers Involved  (Mr S D Boynton, Centre for Applied English Studies)
Course Objectives  This 6-credit English-in-the-Discipline course aims to develop students' professional and technical communication skills for disciplinary studies in mathematical sciences. There are two main components in the course: 1). Case study report writing, 2). Professional oral presentation. Students will learn rhetorical skills for presenting and explaining mathematical and statistical data and trends, and justifying analyses and recommendations convincingly in both written and spoken communication. This will be achieved through analysing samples of case study reports and presentations using a genre-based approach.

Course Contents & Topics  There are two main components in the course:
1. Case study report writing
2. Professional oral presentation

Students will learn rhetorical skills for presenting and explaining mathematical and statistical data and trends, and justifying analyses and recommendations convincingly in both written and spoken communication. This will be achieved through analysing samples of case study reports and presentations using a genre-based approach.

Course Learning Outcomes  On successful completion of this course, students should be able to:
CLO 1 present and explain mathematical and statistical data and trends using appropriate rhetorical skills
CLO 2 organize and articulate coherent ideas with appropriate language devices in a case study report and an oral presentation
CLO 3 justify analyses and recommendations convincingly in a case study report and an oral presentation
CLO 4 identify their own language learning needs, develop independent learning strategies to address those needs, and reflect on their own independent language learning experience

Pre-requisites (and Co-requisites and Impermissible combinations)  NIL

Offer in 2021 - 2022  Y 1st sem 2nd sem Offer in 2022 - 2023 : Y

Grade Descriptors (A+ to F)  
A  Wholly appropriate productive skills displaying a complete awareness of audience, purpose and structure across all disciplinary needs. Students are aware of the needs, and reflect on their own independent language learning experience successfully. They are generally able to analyse a case scenario and make recommendations, but the analysis and recommendations need more justification. Students are able to evaluate their language performance in a limited number of areas and proposed future language learning plans are rather vague. Students are not able to evaluate their language performance and propose future language learning plans. There are frequent language errors in both simple and complex grammar in written work, which impede successful comprehension of ideas and points. Spoken language places considerable strain on the listener throughout. Assessments may not have been attempted or contain plagiarism.
B  Mostly appropriate productive skills displaying good awareness of audience, purpose and structure, although there are occasional lapses in areas. Students are able to analyse a case scenario, justify analyses and recommendations, and discuss data limitations when relevant. Students are able to evaluate their language performance in most areas and propose relevant future language learning plans. Spoken language is comprehensible and fluent. Written language contains a good range of grammar and vocabulary, making some systematic errors of language which generally do not impede understanding.
C  Productive skills are generally appropriate for the intended audience. There is an overall sense that the work is communicating successfully. Purposes are generally clear and tone is generally suitable. Students are generally able to analyse a case scenario and make recommendations, but the analysis and recommendations need more justification. Students are able to evaluate their language performance in a limited number of areas and proposed future language learning plans are rather vague. Written language is generally comprehensible and fluent. Written language contains inaccuracies when complex grammar and vocabulary are used.
D  Productive skills display weaknesses in awareness of purpose and audience. Tone is at times unsuitable. Students superficially analyse a case scenario, and the analyses and recommendations are vague. The structure is generally appropriate although links between sections may be lacking. Students are able to evaluate their language performance only in few areas and the proposed future language learning plans may not be relevant. Written language contains frequent errors in complex grammar and vocabulary, but the written work can still be followed by a patient and sympathetic audience. Spoken language is comprehensible and quite fluent, but slang is all times placed on the listener. Students are not able to evaluate their language performance and propose future language learning plans. There are frequent language errors in both simple and complex grammar in written work, which impede successful comprehension of ideas and points. Spoken language places considerable strain on the listener throughout. Assessments may not have been attempted or contain plagiarism.
Fail  Productive skills show little or no awareness of audience or are too limited to be able to successfully carry out tasks. Students are unable to analyse a case scenario and make reasonable recommendations. Ideas are incoherent, vague and unstructured. Students are not able to evaluate their language performance and propose future language learning plans. There are frequent language errors in both simple and complex grammar in written work, which impede successful comprehension of ideas and points. Spoken language places considerable strain on the listener throughout. Assessments may not have been attempted or contain plagiarism.

Communication-intensive Course  Y

Course Type  Lecture-based course

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

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

Additional Course Information  Students of the BSc (Actuarial Science) and BASci(Applied AI) are required to take this course. Students who intend to major in decision analytics, mathematics, risk management, and statistics are strongly encouraged to take this course. Students from other science disciplines should take CAES9820.
### Practical Chinese for science students (6 credits)

**Offering Department**: Chinese  
**Academic Year**: 2021  
**Offer in 2021 - 2022**: Y  
**Offer in 2022 - 2023**: Y  
**Grade Descriptors**  

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>The student acquired a superb ability to achieve the intended learning outcomes of the course at all levels of learning: describe, apply, evaluate, and synthesize the language techniques for effective communication in all situations.</td>
</tr>
<tr>
<td>B</td>
<td>The student acquired the ability to achieve the intended learning outcomes of the course at all levels of learning: describe, apply, evaluate, and synthesize the language techniques for effective communication in most situations.</td>
</tr>
<tr>
<td>C</td>
<td>The student acquired adequate ability to achieve the intended learning outcomes of the course at low levels of learning (i.e. describe and apply the language techniques for effective communication) but not at high levels of learning (i.e. evaluate and synthesize the language techniques for effective communication).</td>
</tr>
<tr>
<td>D</td>
<td>The student only has basic familiarity with the subject.</td>
</tr>
<tr>
<td>Fail</td>
<td>The student has very limited familiarity with the subject.</td>
</tr>
</tbody>
</table>

**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 presentation and discussion techniques, the style and rhetoric of reader-based writings are included to heighten the students’ linguistic sensitivity.

**Course Contents & Topics**

- Grammar & vocabulary of modern Chinese
- The Chinese writing system
- Techniques of writing short messages: good-news and goodwill messages, bad-news messages, and persuasive messages
- Techniques of writing electronic documents: emails; presentations
- Styles and rhetoric of reader-based reports, proposals and presentations

**Course Learning Outcomes**

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

- CLO 1 develop a balanced competency in modern Chinese and write well-formed sentences
- CLO 2 employ rhetorical devices and stylistics, as well as practical writing skills specific to their discipline
- CLO 3 explore new tactics of communication, initiate discussions and debates and address new challenges
- CLO 4 apply their disciplinary knowledge and their Chinese writing skills and professional presentation techniques analytically, critically and creatively in different social or professional discourses

**Pre-requisites**

NIL

**Communication-intensive Course**  
N

**Course Type**  
Lecture-based course

**Course Teaching & Learning Activities**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Tutorials</td>
<td>Small group tutorials</td>
<td>12</td>
</tr>
<tr>
<td>Group work</td>
<td>Workshops</td>
<td>24</td>
</tr>
<tr>
<td>Discussion</td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td>Reading/self study (20 hours) and preparation (12 hours)</td>
<td>32</td>
</tr>
</tbody>
</table>

**Assessment Methods and Weighting**

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>coursework</td>
<td>50</td>
</tr>
<tr>
<td>Examination</td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

**Required/recommended reading and online materials**

- 汪麗炎, 1998年。《漢語寫作》。上海︰上海大學出版社。
- 李家樹、謝耀基, 1994年。《漢語的特性和運用》。香港︰香港大學出版社。
- 香港城市大學語文學部, 2001年。《中文傳意︰基礎篇》。香港︰香港城市大學出版社。
- 周錫韋復, 1996年。《中文應用寫作教程》。香港︰三聯書店。
- 李錦昌, 2000年。《現代商業傳意大全》。香港︰商業印書館。
- 汪麗炎, 1998年。《漢語修辭》。上海︰上海大學出版社。
- 正文略、蘭德主編, 2001年。《企業文案撰寫模式大全》。廣州︰廣東經濟出版社。
- 刘美森, 2001年。《新編公文寫作學》。成都︰四川人民出版社。
Mathematical methods for actuarial science I (6 credits)

**Offering Department:** Mathematics

**Course Co-ordinator:** Dr C W Wong, Mathematics (cwwongab@hku.hk)

**Course Objectives:**
This course is the first of the two mathematics courses designed to provide actuarial science students with a solid background of calculus of one and several variables and an introduction to linear algebra. The course focuses on single variable calculus and elementary matrix theory. It aims at students with Core Mathematics plus Module 1 or Core Mathematics plus Module 2 background.

**Course Contents & Topics:**
- Functions; graphs; inverse functions.
- Limits, continuity and differentiability.
- Mean value theorem; implicit differentiation; L'Hopital's rule.
- Bisection method and Newton's method.
- Higher order derivatives, maxima and minima, graph sketching.
- Taylor approximation and error estimation.
- Improper integrals, partial fractions, integration by parts.
- Numerical integration, Trapezoidal rule and Simpson's rule.
- Basic matrix and vector (of orders 2 and 3) operations, determinants.
- Simple differential equations.

**Course Learning Outcomes:**
On successful completion of this course, students should be able to:
- CLO 1 describe properties of a function and an inverse function
- CLO 2 evaluate various kinds of limits, and determine continuity and differentiability of functions.
- CLO 3 apply advanced rules/techniques of differentiation and integration to compute derivatives and integrals; sketch graphs of functions
- CLO 4 approximate integrals by numerical methods
- CLO 5 perform matrix and vector operations, compute determinants
- CLO 6 solve simple first and second order ordinary differential equations

**Pre-requisites (and Co-requisites and Impermissible combinations):**
Level 4 or above in HKDSE Mathematics plus Module 1, or Level 4 or above in HKDSE Mathematics plus Module 2, or equivalent; and Not for students who have passed MATH1013 or (MATH1851 and MATH1853), or have already enrolled in these courses. For BSc(ActuarSc) students only.

**Offer in 2021 - 2022:** Y 1st sem Offer in 2022 - 2023 : Y

**Grade Descriptors (A+ to F):**
- **A** Demonstrate an excellent understanding of key concepts and ideas by being able to identify the appropriate theorems and their applications through correctly analysing problems, clearly and elegantly presenting correct logical reasoning and argumentation and being able to carry out computations carefully and correctly, and with some innovative approaches to solving problems.
- **B** Demonstrate a good understanding of key concepts and ideas by being able to identify the appropriate theorems and their applications through correctly analysing problems, but with some minor inadequacies in arguments, identifying the appropriate theorems or their applications and presentation or with some minor computational errors.
- **C** Demonstrate an acceptable understanding of key concepts and ideas by being able to correctly identify appropriate theorems, but with some inadequacies in applying the theorems through incorrectly analysing problems with poor argument and presentation or a number of minor computational errors.
- **D** Demonstrate some understanding of key concepts and ideas by being able to correctly identify appropriate theorems, but with substantial inadequacies in applying the theorems through incorrectly analysing problems with poor argument or presentation or with substantial computational errors.
- **Fail** Demonstrate poor and inadequate understanding by not being able to identify appropriate theorems or their applications, or not being able to complete the solution.

**Communication-intensive Course:** N

**Course Type:** Lecture-based course

**Course Teaching & Learning Activities:**
- **Activities**
  - Lectures: 36
  - Tutorials: 12
  - Reading / Self study: 100

**Assessment Methods and Weighting:**
- **Methods**
  - Assignments: 10
  - Examination: 50
  - Test: 40

**Weighting in final course grade (%):**
- CLO 1,2,3,4,5,6

**Assessment Methods to CLO Mapping:**
- CLO 1,2,3,4,5,6

**Required/recommended reading and online materials:**
George B. Thomas; as revised by Maurice D. Weir and Joel Hass: Thomas’ Calculus (Addison Wesley, 12th edition)

**Course Website:** http://moodle.hku.hk/

**Additional Course Information:**
http://hkimath.hku.hk/~math/Timetable/timetable2122_S1.pdf
MATH2822 Mathematical methods for actuarial science II (6 credits) Academic Year 2021

Offering Department Mathematics
Course Co-ordinator Dr T W Ching, Mathematics (tching@maths.hku.hk)
Teachers Involved Dr T W Ching, Mathematics

Course Objectives
This course is the second of the two mathematics courses designed to provide actuarial science students with a solid background of calculus of one and several variables and an introduction to linear algebra. The course focuses on multivariable calculus and linear algebra. It aims at students with MATH1821. It can be followed by other 2000 or 3000 level mathematics courses.

Course Contents & Topics
- Functions of several variables; partial differentiation.
- Gradients and directional derivatives.
- Taylor approximation.
- Maxima and minima; Lagrange multipliers.
- Double and triple integrals, areas and volumes.
- Matrices, systems of linear equations, determinants.
- Vector spaces and subspaces.
- Eigenvalues and eigenvectors, diagonalization of matrices.

Course Learning Outcomes
On successful completion of this course, students should be able to:
CLO 1 understand and recognize various topics in linear algebra such as the basic arithmetic of matrices, determinants, systems of linear equations, eigenvalues and eigenvectors, diagonalizable matrices, basis and dimension, and the rank-nullity theorem
CLO 2 understand and recognize various topics in functions of several variables including partial differentiation, the Hessian test for local extrema, vector-valued functions, Jacobians, the method of Lagrange multipliers, double/triple integrals and the change of variable formula

Pre-requisites
Pass in MATH1821. For BSc(ActuarSc) students only.

Offer in 2021 - 2022 Y 2nd sem Offer in 2022 - 2023 Y Examination May

Grade Descriptors (A+ to F)
A Demonstrate an excellent understanding of key concepts and ideas by being able to identify the appropriate theorems and their applications through correctly analysing problems, clearly and elegantly presenting correct logical reasoning and argumentation and being able to carry out computations carefully and correctly, and with some innovative approaches to solving problems.
B Demonstrate a good understanding of key concepts and ideas by being able to identify the appropriate theorems and their applications through correctly analysing problems, but with some minor inadequacies in arguments, identifying the appropriate theorems or their applications and presentation or with some minor computational errors.
C Demonstrate an acceptable understanding of key concepts and ideas by being able to correctly identify appropriate theorems, but with some inadequacies in applying the theorems through incorrectly analysing problems with poor argument and presentation or a number of minor computational errors.
D Demonstrate some understanding of key concepts and ideas by being able to correctly identify appropriate theorems, but with substantial inadequacies in applying the theorems through incorrectly analysing problems with poor argument or presentation or with substantial computational errors.
Fail Demonstrate poor and inadequate understanding by not being able to identify appropriate theorems or their applications, or not being able to complete the solution.

Communication-intensive Course N
Course Type Lecture-based course
Course Teaching & Learning Activities
<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Assessment Methods and Weighting
<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td></td>
<td>10</td>
<td>CLO 1,2</td>
</tr>
<tr>
<td>Examination</td>
<td></td>
<td>50</td>
<td>CLO 1,2</td>
</tr>
<tr>
<td>Test</td>
<td>2 tests</td>
<td>40</td>
<td>CLO 1,2</td>
</tr>
</tbody>
</table>

Required/recommended reading and online materials
George B. Thomas; as revised by Maurice D. Weir and Joel Hass: Thomas’ Calculus (Addison Wesley, 12th edition)
Keith Matthews: Elementary Linear Algebra (Url: www.numbertheory.org/book/)

Course Website http://moodle.hku.hk/
Additional Course Information
Timetable: http://hkumath.hku.hk/~math/Timetable/timetable2122_S2.pdf
### STAT2901

**Probability and statistics: foundations of actuarial science (6 credits)**

<table>
<thead>
<tr>
<th>Offering Department</th>
<th>Statistics &amp; Actuarial Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Co-ordinator</td>
<td>Prof S M S Lee, Statistics &amp; Actuarial Science (<a href="mailto:smslee@hku.hk">smslee@hku.hk</a>)</td>
</tr>
<tr>
<td>Teachers Involved</td>
<td>(Prof S M S Lee, Statistics &amp; Actuarial Science)</td>
</tr>
<tr>
<td>Course Objectives</td>
<td>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.</td>
</tr>
</tbody>
</table>
| Course Contents & Topics | 1. General probability  
- Basic elements of probability in set notation  
- Mutually exclusive events  
- Addition and multiplication rules  
- Independence of events  
- Combinatorial probability  
- Conditional probability and expectations  
- Bayes theorem / Law of total probability  
- Random variables  
2. Univariate probability distributions (including binomial, negative binomial, geometric, hypergeometric, Poisson, uniform, exponential, chi-square, beta, Pareto, lognormal, gamma, Weibull and normal) and bivariate normal distribution  
- Probability functions and probability density functions  
- Cumulative distribution functions  
- Mode, median, percentiles and moments  
- Variance and measures of dispersion  
- Central limit theorem  
3. Sampling distributions and introduction of estimation  |
| Course Learning Outcomes | On successful completion of this course, students should be able to:  
CLO 1 understand the mathematical theory underlying the modern practice of statistics  
CLO 2 develop skills in probabilistic analysis for problems involving randomness  
CLO 3 apply techniques in probability and statistics to solve actuarial science problems  |
| Pre-requisites (and Co-requisites and Impermissible combinations) | Pass in MATH1821 (for BSc(ActuarSc) students) or already enrolled in this course, or  
Pass in MATH1013 or already enrolled in this course [for students outside the BSc(ActuarSc) programme]; and  
Not for students who have passed or enrolled in any of these courses: STAT1601, STAT1602, STAT1603, STAT2601  |
| Offer in 2021 - 2022 | Y 2nd sem Offer in 2022 - 2023 : Y |
| Examination May | Examination |
| 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 familiar situations. Apply moderately effective organizational and presentational skills. |
| D | Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills. |
| Fail | Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective. |
| Communication-intensive Course | N |
| Course Type | Lecture-based course |
| Course Teaching & Learning Activities | Activities Details No. of Hours  
Lectures | 36  
Tutorials | 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 3-hour written examination 75 CLO 1,2,3 |
| Course Website | http://moodle.hku.hk |

### STAT2902

**Financial mathematics (6 credits)**

<table>
<thead>
<tr>
<th>Offering Department</th>
<th>Statistics &amp; Actuarial Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Co-ordinator</td>
<td>Prof K C Yuen, Statistics &amp; Actuarial Science (<a href="mailto:kcyuen@hku.hk">kcyuen@hku.hk</a>)</td>
</tr>
<tr>
<td>Teachers Involved</td>
<td>(Prof K C Yuen, Statistics &amp; Actuarial Science)</td>
</tr>
<tr>
<td>Course Objectives</td>
<td>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.</td>
</tr>
<tr>
<td>Course Contents &amp; Topics</td>
<td>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</td>
</tr>
<tr>
<td>Financial mathematics (6 credits)</td>
<td>Academic Year: 2021</td>
</tr>
<tr>
<td>Quota</td>
<td>---</td>
</tr>
<tr>
<td>Examination</td>
<td>Examination May</td>
</tr>
</tbody>
</table>
## Course Learning Outcomes
On successful completion of this course, students should be able to:

- **CLO 1**: Understand basic concepts of financial mathematics.
- **CLO 2**: Understand and formulate elementary financial problems.
- **CLO 3**: Apply compound interest theory to tackle some practical financial problems.
- **CLO 4**: Show an understanding of the term structure of interest rates.
- **CLO 5**: Show an understanding of simple stochastic models for investment returns.

## Pre-requisites and Co-requisites (and Impermissible combinations)
Pass in STAT2601, or already enrolled in this course; and Not for students who have passed in STAT3615, or already enrolled in this course.

<table>
<thead>
<tr>
<th>Offer in 2021 - 2022</th>
<th>Grade Descriptors (A+ to F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

## Communication-intensive Course
Lecture-based course

## Course Type
- Lecture-based course
- Tutorials tutorials/example classes 12
- Lectures 36
- Reading / Self study 100

### Assessment Methods and Weighting
<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, class test(s) and participation)</td>
<td>50</td>
<td>CLO 1, 2, 3, 4, 5</td>
</tr>
<tr>
<td>Examination</td>
<td>One 3-hour written examination</td>
<td>50</td>
<td>CLO 1, 2, 3, 4, 5</td>
</tr>
</tbody>
</table>

## Offerings
- **Y**: 2nd sem Offer in 2022 - 2023 : Y
- **Examination**: May
- **Offer in 2021 - 2022**: Y

## Communication-intensive Course
Lecture-based course

## Course Teaching & Learning Activities
- Activities: Details
- Lectures: 36
- Tutorials: tutorials/example classes 12
- Reading / Self study: 100

## Course Objectives
- This course covers the advanced theory of point estimation, interval estimation and hypothesis testing. Using a mathematically-oriented approach, the course provides a solid and rigorous treatment of inferential problems, statistical methodologies and the underlying concepts and theory. It is suitable in particular for students intending to further their studies or to develop a career in statistical research.

## Course Contents & Topics
- 1. Decision problem - frequentist approach: loss function; risk; decision rule; admissibility; minimaxity; unbiasedness; Bayes' rule.
- 2. Decision problem - Bayesian approach: prior and posterior distributions, Bayesian inference.
- 3. Estimation theory: exponential families; likelihood; sufficiency; minimal sufficiency; completeness; UMVU estimators; information inequality; large-sample theory of maximum likelihood estimation.
- 4. Hypothesis testing: uniformly most powerful test; monotone likelihood ratio; UMP unbiased test; large-sample theory of likelihood ratio; confidence set.

## Course Learning Outcomes
On successful completion of this course, students should be able to:

- **CLO 1**: Form a panoramic view of classical developments in mathematical statistics.
- **CLO 2**: Gain thorough insight into the essentials of statistical inference.
- **CLO 3**: Build a solid foundation for future research studies in statistics and related areas.

## Pre-requisites and Co-requisites (and Impermissible combinations)
Pass in STAT2602 or STAT3902

## Offerings
- **Y**: 1st sem Offer in 2022 - 2023 : Y
- **Examination**: Dec

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

## Required/recommended reading and online materials
- **Course Website**: http://moodle.hku.hk
- **Statistical Inference (6 credits)**

## Assessment
- **Examination**: One 3-hour written examination 50
- **Assessment Methods to CLO Mapping**: CLO 1, 2, 3, 4, 5

## Course Website
http://moodle.hku.hk

## Course Co-ordinator
Prof S M S Lee, Statistics & Actuarial Science (smslee@hku.hk)

## Teachers Involved
Prof S M S Lee, Statistics & Actuarial Science

## Pre-requisites
Pass in STAT2601, or already enrolled in this course; and Not for students who have passed in STAT3615, or already enrolled in this course.

## Course Name
Statistical inference (6 credits)

## Quota
---

## Academic Year
2021
<table>
<thead>
<tr>
<th>Course Teaching &amp; Learning Activities</th>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment Methods and Weighting</th>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>40</td>
<td>CLO 1,2,3</td>
<td></td>
</tr>
<tr>
<td>Examination</td>
<td>One 2-hour written examination</td>
<td>60</td>
<td>CLO 1,2,3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required/recommended reading and online materials</th>
</tr>
</thead>
</table>

| Course Website | http://moodle.hku.hk |

<table>
<thead>
<tr>
<th>STAST3612</th>
<th>Statistical machine learning (6 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offering Department</td>
<td>Statistics &amp; Actuarial Science</td>
</tr>
<tr>
<td>Course Co-ordinator</td>
<td>Dr C Wang, Statistics &amp; Actuarial Science (<a href="mailto:stacw@hku.hk">stacw@hku.hk</a>)</td>
</tr>
<tr>
<td>Teachers Involved</td>
<td>(Dr C Wang, Statistics &amp; Actuarial Science)</td>
</tr>
<tr>
<td>Course Objectives</td>
<td>Machine learning is the study of computer algorithms that build models of observed data in order to make predictions or decisions. Statistical machine learning emphasizes the importance of statistical theory and methodology in the algorithmic development. This course provides a comprehensive and practical coverage of essential machine learning concepts and a variety of learning algorithms under supervised and unsupervised settings.</td>
</tr>
<tr>
<td>Course Contents &amp; Topics</td>
<td>Basics of machine learning, generalized linear models, variable selection, regularization, cross-validation, tree-based methods, dimension reduction, principal component analysis, cluster analysis.</td>
</tr>
<tr>
<td>Course Learning Outcomes</td>
<td>On successful completion of this course, students should be able to:</td>
</tr>
<tr>
<td>CLO 1</td>
<td>get familiar with the workflow of a data science or machine learning project</td>
</tr>
<tr>
<td>CLO 2</td>
<td>understand and apply a wide range of statistical machine learning methods, and recognize their characteristics, strengths and weaknesses</td>
</tr>
<tr>
<td>CLO 3</td>
<td>identify and use appropriate techniques for a particular data science project</td>
</tr>
<tr>
<td>CLO 4</td>
<td>evaluate the quality of the resulting model in terms of prediction accuracy and model explainability</td>
</tr>
<tr>
<td>CLO 5</td>
<td>apply R programming for solving data-scientific problems</td>
</tr>
<tr>
<td>Pre-requisites (and Co-requisites and Impermissible combinations)</td>
<td>Pass in STAT2602 or (STAT1603 and any University level 2 course) or STAT3902; and Pass in STAT3800 or STAT3907, or already enrolled in these courses; and 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.</td>
</tr>
<tr>
<td>Offer in 2021 - 2022</td>
<td>Y</td>
</tr>
<tr>
<td>Grade Descriptors (A+ to F)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>Fail</td>
</tr>
<tr>
<td>Communication-intensive Course</td>
<td>N</td>
</tr>
<tr>
<td>Course Type</td>
<td>Lecture-based course</td>
</tr>
<tr>
<td>Course Teaching &amp; Learning Activities</td>
<td>Activities</td>
</tr>
<tr>
<td>Lectures</td>
<td></td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
</tr>
<tr>
<td>Assessment Methods and Weighting</td>
<td>Methods</td>
</tr>
<tr>
<td>Assignments</td>
<td></td>
</tr>
<tr>
<td>Project reports</td>
<td></td>
</tr>
<tr>
<td>Test</td>
<td></td>
</tr>
</tbody>
</table>
STAT3616 Advanced SAS programming (6 credits) Academic Year 2021
Offering Department Statistics & Actuarial Science Quota 50
Course Co-ordinator TBC, Statistics & Actuarial Science

Course Objectives
This course aims to equip students, who have taken STAT2603, with a high level of proficiency in SAS programming for automation of procedures and data processing in solving complex problems more efficiently.

Course Contents & Topics
Overview of SAS underlying parts. Macro programming. Advanced programming techniques including data simulation, advanced data look-up techniques, modifying transaction datasets and controlling I/O processing and memory.

Course Learning Outcomes
On successful completion of this course, students should be able to:
- CLO 1 Understand the system of SAS and basic programming
- CLO 2 Use the BY statement for parallel processing to aid automation
- CLO 3 Use the output dataset without printing to OUTPUT windows for piping idea in automation
- CLO 4 Use SAS MACRO to develop customized and automated applications
- CLO 5 Use advanced SAS programming statements and techniques to solve complex problems

Pre-requisites
Pass in STAT2601 or STAT2901
(Students are strongly recommended to take STAT2603 or STAT2604 prior to taking this course.)

Offer in 2021 - 2022 N Offer in 2022 - 2023 : N Examination ---

Grade Descriptors (A+ to F)
A Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.

B Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.

C Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.

D Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.

Fail Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

Course Type Lecture-based course

Communication-intensive Course N

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

Assessment Methods and Weighting
Methods Details Weighting in final course grade (%) Assessment Methods to CLO Mapping
Assignments Coursework (assignments, tutorials, and a class test) 50 CLO 1,2,3,4,5
Examination One 2-hour written examination 50 CLO 1,2,3,4,5

Required/recommended reading and online materials

Course Website http://moodle.hku.hk

STAT3901 Life contingencies I (6 credits) Academic Year 2021
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
The major objectives of this course are to integrate life contingencies into a full probabilistic framework. The time-until-death random variable is the basic building block by which models for life insurances, designed to reduce the financial impact of the random event of untimely death, are developed. This course introduces the concepts of life contingencies and the basic mathematical skills for modelling life insurance products.

Course Contents & Topics
Key topics include: survival distributions; life table functions; select and ultimate tables; life insurance models; life annuity models; loss-at-issue random variable; benefit premiums.

Course Learning Outcomes
On successful completion of this course, students should be able to:
- CLO 1 calculate the expected values, variances, probabilities, and percentiles for survival-time random variables
- CLO 2 define the continuous survival-time random variable that arises from the discrete survival-time random variable using some assumptions for fractional ages
- CLO 3 define present-value-of-benefit random variables defined on survival-time random variables
- CLO 4 define and calculate the expected values, variances and probabilities for present-value-of-benefit random variables, present-value-of-loss-at-issue random variables, and present-value-of-loss random variables
- CLO 5 calculate benefit premiums for life insurances and annuities

Pre-requisites
(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)

Offer in 2021 - 2022 Y 1st sem Offer in 2022 - 2023 : Y Examination Dec

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.

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.
(A+ to F) 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-based course

Course Teaching & Learning Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Assessment Methods and Weighting

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>coursework (assignments, tutorials, class test(s) and participation)</td>
<td>50</td>
<td>CLO 1,2,3,4,5</td>
</tr>
<tr>
<td>Examination</td>
<td>one 3-hour written examination</td>
<td>50</td>
<td>CLO 1,2,3,4,5</td>
</tr>
</tbody>
</table>

Required/recommended reading and online materials


Course Website http://moodle.hku.hk

STAT3902 Statistical models (6 credits)

Offering Department Statistics & Actuarial Science

Course Co-ordinator Dr J F Xu, Statistics & Actuarial Science (jxfj@hku.hk)

Teachers Involved (Dr J F Xu, Statistics & Actuarial Science)

Course Objectives This course is on the basis of 'STAT2901 Probability and Statistics: Foundation of Actuarial Science'. It will further study the concepts and methods of statistics. The course will lay emphasis on the estimation and hypothesis testing, the two major areas of statistical inference. Through the study of this course, students will be equipped with both quantitative skills and qualitative perceptions essential for making rigorous statistical analysis of data. This 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 likelihood 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 of two normal variances, and large-sample confidence intervals; power function, Neyman-Pearson Lemma, likelihood ratio test, and goodness of fit test.

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

CLO 1 understand the importance of sufficient statistic(s) in data reduction and statistical inferences such as point estimation, confidence interval estimation, and testing hypothesis

CLO 2 derive maximum likelihood estimators of parameters to calculate maximum likelihood estimates

CLO 3 locate pivotal quantity to construct confidence intervals of parameters

CLO 4 find testing statistic to test hypotheses associated with one-sample and/or two-sample normal distributions with small sample sizes and non-normal distributions with large sample sizes

Pre-requisites (and Co-requisites and Impermissible combinations) Pass in STAT2901; and

Not for students who have passed in STAT2602, or already enrolled in this course; and

For BSc(Actuarial Science) students only.

Offer in 2021 - 2022 Y 1st sem Offer in 2022 - 2023 : Y

Grade Descriptors (A+ to F)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>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.</td>
</tr>
<tr>
<td>B</td>
<td>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.</td>
</tr>
<tr>
<td>C</td>
<td>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.</td>
</tr>
<tr>
<td>D</td>
<td>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.</td>
</tr>
<tr>
<td>Fail</td>
<td>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.</td>
</tr>
</tbody>
</table>

Communication-intensive Course N

Course Type Lecture-based course

Course Teaching & Learning Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Assessment Methods

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Course Objectives

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

- **CLO 1**: apply the conditioning method to calculate the mean and probability
- **CLO 2**: understand the essentials of Markov chains, the Poisson process, and Brownian motion
- **CLO 3**: understand how stochastic models can be applied to the study of real-life phenomena

### 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).

### Assessment Methods

**Examination**: One 3-hour written examination 75%

<table>
<thead>
<tr>
<th>CLO 1,2,3,4</th>
</tr>
</thead>
</table>

### 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 familiar and some unfamiliar 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 Website

http://moodle.hku.hk

### Required/recommended reading and online materials


### Course Website

http://moodle.hku.hk

### STAT3904

**Corporate finance for actuarial science (6 credits)**

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>2021</th>
</tr>
</thead>
</table>

### Offering Department

Statistics & Actuarial Science

### Course Co-ordinator

Dr D Lee, Statistics & Actuarial Science (leedav@hku.hk)

### Required/recommended reading and online materials

- S. M. Ross: *Introduction to Probability Models* (9th edition)

### Teachers Involved

(Dr D Lee, Statistics & Actuarial Science)

### Course Objectives

This course is designed for actuarial science students to receive finance component of VEE Accounting and Finance from the Society of Actuaries. The objective of this course is to introduce students to the fundamental principles of corporate finance. The course will provide students with a systematic framework within which to evaluate investment and financing decisions for corporations.

### Course Contents & Topics

The first part of the course will give an introduction to corporate finance and provide an overview of some topics covered in STAT2902 and STAT3615. These include financial markets and companies, time value of money, and measures and performance assessment of financial performance. The main part of the course will focus on some
Course 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

Required/recommended reading and online materials


Course Website
http://moodle.hku.hk

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.

B
Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.

C
Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.

D
Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.

Fail
Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

Communication-intensive Course

N

Course Type

Lecture-based course

Course Teaching & Learning Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Assessment Methods and Weighting

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>25</td>
<td>CLO 1,2,3,4,5,6,7</td>
</tr>
<tr>
<td>Examination</td>
<td>One 3-hour written examination</td>
<td>75</td>
<td>CLO 1,2,3,4,5,6,7</td>
</tr>
</tbody>
</table>

Required/recommended reading and online materials


Course Website
http://moodle.hku.hk

Examination

Y

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.

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.
## STAT3906
**Offering Department:** Statistics & Actuarial Science  
**Course Co-ordinator:** Dr K C Cheung, Statistics & Actuarial Science (kccg@hku.hk)  
**Teachers Involved:** Dr K C Cheung, Statistics & Actuarial Science  

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

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

### Pre-requisites (and Co-requisites and Impermissible combinations)
Pass in MATH3603 or STAT3603.  

### Offer in 2021 - 2022
- Grade Descriptors (A+ to F): Y 1st sem, Offer in 2022 - 2023: Y  

### Course Type
Lecture-based course  

### Assessment Methods and Weighting
<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>25</td>
<td>CLO 1,2,3</td>
</tr>
<tr>
<td>Examination</td>
<td>One 2-hour written examination</td>
<td>75</td>
<td>CLO 1,2,3</td>
</tr>
</tbody>
</table>

### Required/recommended reading and online materials

### Course Website
http://moodle.hku.hk  

---  

## STAT3907
**Offering Department:** Statistics & Actuarial Science  
**Course Co-ordinator:** Prof G Li, Statistics & Actuarial Science (gdli@hku.hk)  
**Teachers Involved:** Prof G Li, Statistics & Actuarial Science  

### Course Objectives
This course deals with applied statistical methods of linear models and investigates various forecasting procedures through using linear models and time series analysis.

### Course Contents & Topics
Regression and multiple linear regression; predicting; time series models including autoregressive, moving average, autoregressive-moving average and integrated models; forecasting.

### Course Learning Outcomes
On successful completion of this course, students should be able to:

- 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.
- 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 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. Organization and presentational skills are minimally effective or ineffective.
- 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 Website
http://moodle.hku.hk  

---  

## Communication-intensive Course
N  

### Course Type
Lecture-based course  

### Assessment Methods and Weighting
<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>25</td>
<td>CLO 1,2,3</td>
</tr>
<tr>
<td>Examination</td>
<td>One 2-hour written examination</td>
<td>75</td>
<td>CLO 1,2,3</td>
</tr>
</tbody>
</table>

### Required/recommended reading and online materials

### Course Website
http://moodle.hku.hk  

---  

## Course Website
http://moodle.hku.hk
### Course Objectives
On successful completion of this course, students should be able to:

<table>
<thead>
<tr>
<th>CLO</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO 1</td>
<td>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.</td>
</tr>
<tr>
<td>CLO 2</td>
<td>Do ANOVA analysis</td>
</tr>
<tr>
<td>CLO 3</td>
<td>Identify and fit a suitable AR, MA or ARMA model to real data</td>
</tr>
<tr>
<td>CLO 4</td>
<td>Perform residual analysis</td>
</tr>
<tr>
<td>CLO 5</td>
<td>Do forecasting with these fitted models</td>
</tr>
</tbody>
</table>

### Pre-requisites
Pass in STAT2602 or STAT3902, or 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.

### Offer in 2021 - 2022
Y 2nd sem Offer in 2022 - 2023: Y

### 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 Contents & Topics
Limited fluctuation approach; Buhlman's approach; Bayesian approach; empirical Bayes parameter estimations; construction and selection of parametric models; properties and estimation of failure time and loss distributions; determination of the acceptability of a fitted model; comparison of fitted models; simulation of both discrete and continuous random variables.

### Course Learning Outcomes
On successful completion of this course, students should be able to:

<table>
<thead>
<tr>
<th>CLO</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO 1</td>
<td>Apply limited fluctuation (classical) credibility including criteria for both full and partial credibility</td>
</tr>
<tr>
<td>CLO 2</td>
<td>Perform Bayesian analysis using both discrete and continuous models</td>
</tr>
<tr>
<td>CLO 3</td>
<td>Apply Buhlmann and Buhlmann-Straub models and understand the relationship of these to the Bayesian model</td>
</tr>
<tr>
<td>CLO 4</td>
<td>Apply conjugate priors in Bayesian analysis and in particular the Poisson-gamma model</td>
</tr>
<tr>
<td>CLO 5</td>
<td>Apply empirical Bayesian methods in the nonparametric and semiparametric cases</td>
</tr>
<tr>
<td>CLO 6</td>
<td>Construct and select empirical models</td>
</tr>
<tr>
<td>CLO 7</td>
<td>Determine the acceptability of a fitted model and/or compare models</td>
</tr>
</tbody>
</table>

### Pre-requisites (and Co-requisites and Impermissible combinations)
Pass in STAT2602 or STAT3902 or STAT3906

### Offer in 2021 - 2022
Y 2nd sem Ofer in 2022 - 2023: Y

### Communication-intensive Course
N

### Course Type
Lecture-based course

### Course Teaching & Learning Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

### Assessment Methods and Weighting

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assignment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, a computer-based assessment and a class test)</td>
<td>25</td>
<td>CLO 1,2,3,4,5</td>
</tr>
<tr>
<td>Examination</td>
<td>One 3-hour written examination</td>
<td>75</td>
<td>CLO 1,2,3,4,5</td>
</tr>
</tbody>
</table>

### Required/recommended reading and online materials

### Course Website
http://moodle.hku.hk
CLO 1, 2, 3, 4, 5, 6, 7

### Course Objectives

- **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. 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.

- **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.

### Assessment Methods and Weighting

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>25</td>
<td>CLO 1, 2, 3, 4, 5, 6, 7</td>
</tr>
<tr>
<td>Examination</td>
<td>One 3-hour written examination</td>
<td>75</td>
<td>CLO 1, 2, 3, 4, 5, 6, 7</td>
</tr>
</tbody>
</table>

### Required/recommended reading and online materials


### Course Website

http://moodle.hku.hk
<table>
<thead>
<tr>
<th>STAT3910</th>
<th>Financial economics I (6 credits)</th>
<th>Academic Year</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offering Department</td>
<td>Statistics &amp; Actuarial Science</td>
<td>Quota</td>
<td>---</td>
</tr>
<tr>
<td>Course Co-ordinator</td>
<td>Prof H L Yang, Statistics &amp; Actuarial Science (<a href="mailto:hlyang@hku.hk">hlyang@hku.hk</a>)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers Involved</td>
<td>(Prof H L Yang,Statistics &amp; Actuarial Science)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Objectives</td>
<td>This course is on option pricing and hedging. The course will concentrate on the theory and idea of derivatives pricing and risk management.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Contents &amp; Topics</td>
<td>Option market; European and American options; conditional expectation and discrete-time martingale, discrete-time option-pricing theory; binomial model and its Greeks; true probabilities vs. risk-neutral probabilities; estimating volatility; the Black-Scholes formula; implied volatility; option Greeks; market-making and hedging; exotic options.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Learning Outcomes</td>
<td>On successful completion of this course, students should be able to:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&amp; Topics</td>
<td>CLO 1 calculate option price using binomial tree, including European option, American options, options on currencies, options on futures contracts, and options on bonds</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CLO 2 understand the risk neutral probability, and how to price option using real probability</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CLO 3 understand the Black-Scholes formula, including the assumptions, the Greek letters, option elasticity, and implied volatility</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CLO 4 understand the hedging strategies and portfolio, market-maker risk, self-financing portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CLO 5 understand the market-maker’s profit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CLO 6 understand exotic options, including Asian options, barrier options, compound options, gap options, and exchange options</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CLO 7 understand interest rate models, including Vasicek model, Cox-Ingersoll-Ross model and Black-Derman-Toy model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-requisites and Impermissible combinations)</td>
<td>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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offer in 2021 - 2022</td>
<td>Y 1st sem Offer in 2022 - 2023 : Y</td>
<td>Examination</td>
<td>Dec</td>
</tr>
<tr>
<td>Grade Descriptors (A+ to F)</td>
<td>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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication-intensive Course Type</td>
<td>Lecture-based course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Teaching &amp; Learning Activities</td>
<td>Activities</td>
<td>Details</td>
<td>No. of Hours</td>
</tr>
<tr>
<td></td>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Assessment Methods and Weighting</td>
<td>Methods</td>
<td>Details</td>
<td>Weighting in final course grade (%)</td>
</tr>
<tr>
<td></td>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, a computer-based assessment and a class test)</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Examination</td>
<td>One 3-hour written examination</td>
<td>75</td>
</tr>
<tr>
<td>Required/recommended reading and online materials</td>
<td>1. Derivatives Markets, Chapters 10-14 and 24, 2nd edition, by Robert L. McDonald. 2. Options, Futures and Other Derivatives, 4th or later edition, by J. Hull.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Website</td>
<td><a href="http://moodle.hku.hk">http://moodle.hku.hk</a></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Pre-requisites (and Co-requisites and Impermissible combinations)

<table>
<thead>
<tr>
<th>Pre-requisites (and Co-requisites and Impermissible combinations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pass in MATH3603 or STAT3603 or STAT3903 or STAT3910</td>
</tr>
</tbody>
</table>

## Offer in 2021 - 2022

<table>
<thead>
<tr>
<th>Grade Descriptors (A+ to F)</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>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.</td>
</tr>
<tr>
<td>B</td>
<td>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.</td>
</tr>
<tr>
<td>C</td>
<td>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.</td>
</tr>
<tr>
<td>D</td>
<td>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.</td>
</tr>
<tr>
<td>E</td>
<td>Fail</td>
</tr>
</tbody>
</table>

## Grade Descriptors

- A+ to F
- Pass in MATH3603 or STAT3603 or STAT3903 or STAT3910
- For BSc(Actuarial Science) students only.

## Course Type

Lecture-based course

## Offer in 2022 - 2023

<table>
<thead>
<tr>
<th>Grade Descriptors (A+ to F)</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>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.</td>
</tr>
<tr>
<td>B</td>
<td>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.</td>
</tr>
<tr>
<td>C</td>
<td>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.</td>
</tr>
<tr>
<td>D</td>
<td>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.</td>
</tr>
<tr>
<td>E</td>
<td>Fail</td>
</tr>
</tbody>
</table>

## Communication-intensive Course

N

## Course Teaching & Learning Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

## Assessment Methods and Weighting

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>25</td>
<td>CLO 1,2,3,4,5</td>
</tr>
<tr>
<td>Examination</td>
<td>One 3-hour written examination</td>
<td>75</td>
<td>CLO 1,2,3,4,5</td>
</tr>
</tbody>
</table>

## Required/recommended reading and online materials

- Steven Shreve: Stochastic Calculus for Finance II Continuous-Time Models (2008)

## Course Website

http://moodle.hku.hk

## STAT3951

### Further topics in contingencies (6 credits)

- **Academic Year**: 2021
- **Offering Department**: Statistics & Actuarial Science
- **Teachers Involved**: (Dr D Lee, Statistics & Actuarial Science) 
  (leedav@hku.hk)
- **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**: Topics cover further analysis of the multiple state model; graduation and related tests; unit-linked contracts; cost of guarantees and options; equity-linked life-contingent insurance products and their valuation; simple ruin models for non-life insurance portfolios.
- **Course Learning Outcomes**: On successful completion of this course, students should be able to:
  - CLO 1 obtain transition probabilities in continuous-time multiple state models and evaluate expected state-dependent cash flows
  - CLO 2 estimate age-dependent transition probabilities
  - CLO 3 explain the concept of graduation and apply statistical tests for mortality table comparisons
  - CLO 4 apply the Esscher transform on probability distributions and stochastic processes
  - CLO 5 price various equity-linked insurance products using Esscher transforms and risk-neutral methods
  - CLO 6 formulate simple ruin models and evaluate ruin probabilities as well as related quantities

## Pre-requisites (and Co-requisites and Impermissible combinations)

- Pass in STAT3905; and Pass in STAT3910, or already enrolled in this course; and For BSc(Actuarial Science) students only.

## Communication-intensive Course

N

## Course Type

Lecture-based course

## Course Teaching & Learning Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>
### STAT3952 Investment and asset management (6 credits)

**Offering Department**: Statistics & Actuarial Science  
**Quota**: ---

**Course Website**: http://moodle.hku.hk

**Partnering College**: 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.

**Pre-requisites (and Co-requisites and Impermissible combinations)**:

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.

**Offer in 2021 - 2022**

| N | Offer in 2022 - 2023 : N | Examination --- |

**Grade Descriptors (A+ to F)**

- **A**
  - Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.

- **B**
  - Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.

- **C**
  - Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.

- **D**
  - Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.

- **Fail**
  - Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

**Course Type**

Lecture-based course

**Course Teaching & Learning Activities**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Assessment Methods and Weighting**

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Assignments, tutorials/example classes, group discussions, project and presentation</td>
<td>50</td>
<td>CLO 1,2,3,4,5,6,7,8</td>
</tr>
<tr>
<td>Examination</td>
<td>One 2-hour written examination</td>
<td>50</td>
<td>CLO 1,2,3,4,5,6,7,8</td>
</tr>
</tbody>
</table>

**Required/recommended reading and online materials**

- Crouhy, Galai, & Mark: Risk Management (2001)

**Course Website**

http://moodle.hku.hk

**Additional Course Information**

Other references:  
Course Objectives
This course teaches students about the business environment and exposes them to practical real-world situations using the actuarial control cycle as a framework.

Course Contents & Topics
This course provides an overview on selected materials relating to the following topics: Role of the Professional Actuary, External Forces, Risk in Actuarial Problems, Design and Pricing of Actuarial Solutions. Emphasis will be placed on applications to various financial security programmes including individual life insurance, group insurance, social security plans, retirement plans, investment funds and property and casualty insurance.

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

- CLO 1 provide introductory description of financial security systems, common actuarial techniques and practical experiences
- CLO 2 describe actuarial practices, principles, approaches, methods, commonalities, problems and solutions
- CLO 3 explain actuarial practices across the traditional areas of practice
- 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 prepare for the professional role as an Associate of the Society of Actuaries

Pre-requisites (and Co-requisites and Impermissible combinations)
Pass in STAT3901.

Offer in 2021 - 2022
Y 1st sem

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 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. Organizational and presentational skills are minimally effective or ineffective.

Fail Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organizational and presentational skills are minimally effective or ineffective.

Communication-intensive Course
N

Course Type
Lecture-based course

Assessment Methods and Weighting
<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>oral presentation</td>
<td>25</td>
<td>CLO 4.5,6</td>
</tr>
<tr>
<td>Project reports</td>
<td>written report</td>
<td>50</td>
<td>CLO 4.5,6.7</td>
</tr>
<tr>
<td>Test</td>
<td>in-class quizzes</td>
<td>25</td>
<td>CLO 1,2,3,4,5,6.7</td>
</tr>
</tbody>
</table>

Required/recommended reading and online materials
- Klugman, S.: Understanding Actuarial Practice (Society of Actuaries, 2012)

Course Website
http://moodle.hku.hk

Course Objectives
This course aims at providing practical elements for actuarial students including daily life actuarial practice and the basic capability to understand, research in and handle the laws as and when situations would arise, which will benefit students in their coming future career.

Course Contents & Topics
This course covers a full range of topics related to both areas including 1) Practical Actuarial Practice and 2) Actuaries’ Legal Thinking.

For Practical Actuarial Practice: It covers the major practical topics in both Life and Casualty areas. For Life Insurance, it covers the full picture of actuarial control cycle including Product Pricing, Valuation, Financial Reporting and Experience Analysis. For General Insurance, it covers the backbone areas including Product Pricing and Valuation.

For Actuaries’ Legal Thinking: This is the 7th year of the course and the full start of a new course structure echoing changes in the market for basic legal and general insurance skills for actuaries. Intellectually stimulating recent legal materials with heavy involvement of actuarial and other general insurance expertise would dominate the
## Course Learning Outcomes

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

- **CLO 1** have a basic understanding regarding Actuarial Control Cycle from A to Z for Life Insurance and General Insurance
- **CLO 2** possess some experience regarding fundamental actuarial practice through practical project
- **CLO 3** possess basic understanding of the legal system in Hong Kong
- **CLO 4** possess fundamental knowledge in certain core legal aspects such as the law of contract and the law of tort
- **CLO 5** possess fundamental knowledge of the law of insurance
- **CLO 6** conduct elementary legal researches when facing with legal problems
- **CLO 7** understand the basic elements of a routine judgment, the matrix of the facts and the law involved

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.

## Pre-requisites (and Co-requisites and Impermissible combinations)

<table>
<thead>
<tr>
<th>N</th>
<th>Offer in 2022 - 2023 : N</th>
<th>Examination</th>
<th>---</th>
</tr>
</thead>
</table>

## Grade Descriptors (A+ to F)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>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.</td>
</tr>
<tr>
<td>B</td>
<td>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.</td>
</tr>
<tr>
<td>C</td>
<td>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.</td>
</tr>
<tr>
<td>D</td>
<td>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.</td>
</tr>
<tr>
<td>Fail</td>
<td>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.</td>
</tr>
</tbody>
</table>

## Communication-intensive Course

<table>
<thead>
<tr>
<th>N</th>
</tr>
</thead>
</table>

### Course Type

Lecture-based course

### Course Teaching & Learning Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

### Assessment Methods and Weighting

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, practical project &amp; class test(s))</td>
<td>100</td>
<td>CLO 1,2,3,4,5,6,7</td>
</tr>
</tbody>
</table>

### Course Website

http://moodle.hku.hk

## STAT3955

### Offering Department

Statistics & Actuarial Science

### Teachers Involved

Dr J F Xu, Statistics & Actuarial Science (xujf@hku.hk)

### 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

- The nature and properties of parametric and nonparametric survival models will be studied. Topics to be covered include: the introduction of some important basic quantities like the hazard function and survival function; some commonly used parametric survival models; concepts of censoring and/or truncation; parametric estimation of the survival distribution by maximum likelihood estimation method; nonparametric estimation of the survival functions from possibly censored samples by means of the Kaplan-Meier estimator, the Nelson-Aalen estimator; and the kernel density estimator or the Ramlau-Hansen estimator and comparisons of k independent survival functions by means of the generalized log-rank test; parametric regression models; Cox's semiparametric proportional hazards regression model; and multivariate survival analysis.

### 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 of the concept of death and life
- **CLO 2** perform estimation for some commonly used survival models under different types of censoring mechanisms
- **CLO 3** analyze survival data using the Cox's semiparametric proportional hazards model
- **CLO 4** extend the Cox's model to a multivariate setup to accommodate multivariate survival data

### Pre-requisites (and Co-requisites and Impermissible combinations)

- Pass in STAT3902, or already enrolled in this course; or Pass in STAT3900 or STAT3901; Not for students who have passed in STAT3955, or already enrolled in this course.

### Offer in 2021 - 2022

<table>
<thead>
<tr>
<th>N</th>
<th>Offer in 2022 - 2023 : N</th>
<th>Examination</th>
<th>---</th>
</tr>
</thead>
</table>

### Grade Descriptors (A+ to F)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>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.</td>
</tr>
<tr>
<td>B</td>
<td>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.</td>
</tr>
<tr>
<td>C</td>
<td>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.</td>
</tr>
<tr>
<td>D</td>
<td>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.</td>
</tr>
<tr>
<td>Fail</td>
<td>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.</td>
</tr>
</tbody>
</table>
Course Type: Lecture-based course

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 of asset and liability management.

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 2021 - 2022
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. Organization and presentational skills are minimally effective or ineffective.
Fail: Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

Communication-intensive Course:
N

Assessment Methods & Weighting:
<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>25</td>
<td>CLO 1,2,3,4</td>
</tr>
<tr>
<td>Examination</td>
<td>One 3-hour written examination</td>
<td>75</td>
<td>CLO 1,2,3,4</td>
</tr>
</tbody>
</table>

Required/recommended reading and online materials:
Actuarial Standard of Practice No. 27, Selection of Economic Assumptions for Measuring Pension Obligations
Actuarial Standard of Practice No. 58, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations

Course Website:
http://moodle.hku.hk
Credit risk analysis (6 credits)  

**Course Objectives**


**Pre-requisites**

Pass in STAT3600 or STAT3907

**Required/recommended reading and online materials**


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

**Course Type**

Lecture-based course

**Course Teaching & Learning Activities**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Assessment Methods and Weighting**

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>40</td>
<td>CLO 1,2,3,4,5</td>
</tr>
<tr>
<td>Examination</td>
<td>One 3-hour written examination</td>
<td>60</td>
<td>CLO 1,2,3,4,5</td>
</tr>
</tbody>
</table>

**Communication-intensive Course**

N

**Offering Department**

Statistics & Actuarial Science

**Course Co-ordinator**

Prof T W K Fung, Statistics & Actuarial Science (wingfung@hku.hk)

**Teachers Involved**

Prof T W K Fung, Statistics & Actuarial Science

**Offer in 2021 - 2022**

Y 2nd sem Offer in 2022 - 2023 : 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 Website**

http://moodle.hku.hk

**Course Type**

Lecture-based course

**Course Teaching & Learning Activities**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Assessment Methods and Weighting**

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>40</td>
<td>CLO 1,2,3,4,5</td>
</tr>
<tr>
<td>Examination</td>
<td>One 3-hour written examination</td>
<td>60</td>
<td>CLO 1,2,3,4,5</td>
</tr>
</tbody>
</table>

**Required/recommended reading and online materials**


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

**Course Type**

Lecture-based course

**Course Teaching & Learning Activities**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Assessment Methods and Weighting**

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>40</td>
<td>CLO 1,2,3,4,5</td>
</tr>
<tr>
<td>Examination</td>
<td>One 3-hour written examination</td>
<td>60</td>
<td>CLO 1,2,3,4,5</td>
</tr>
</tbody>
</table>

**Required/recommended reading and online materials**


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
Probabilities of default, recovery rates and loss given default; Default and credit migration; credit scoring and internal rating models; Credit portfolio models such as CreditMetrics, CreditPortfolioView, KMV and actuarial approach; Credit derivatives.

On successful completion of this course, students should be able to:
CLO 1: understand the Basel requirements 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 and the mortality method
CLO 4: understand the concept of credit Value-at-Risk and the CreditMetrics approach
CLO 5: estimate default correlations
CLO 6: assess credit rating systems

Pass in STAT3618 or STAT3905 or STAT3910 or (FINA2322 and any University level 3 course)

A May

Course Contents & Topics

Course Learning Outcomes

Pre-requisites (and Co-requisites and Impermissible combinations)

Pass in STAT3618 or STAT3905 or STAT3910 or (FINA2322 and any University level 3 course)

Offer in 2021 - 2022

Y 2nd sem Offer in 2022 - 2023: Y Examination May

Grade Descriptors (A+ to F)

A
B
C
D
Fail

Communication-intensive Course

N

Course Type
Lecture-based course

Course Teaching & Learning Activities

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

Assessment Methods and Weighting

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

Required/recommended reading and online materials


Course Website
http://moodle.hku.hk

STAT4608 Market risk analysis (6 credits)

Academic Year 2021

Offering Department Statistics & Actuarial Science
Quota ---

Course Co-ordinator Dr K Zhu, Statistics & Actuarial Science (mazhuke@hku.hk)

Teachers Involved Dr K Zhu

Course Objectives Financial risk management has experienced a revolution in the last decade thanks to the introduction of new 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, and stress testing.

Course Contents & Topics Risk Measures: Value-at-Risk (VaR) models (parametric, Monte Carlo simulation and Historical simulation); Risk factor mapping; Advanced VaR models (GARCH-type models, extreme-value theory and normal-mixture); Principal Component Analysis and VaR; Backtesting and stress testing.

Course Learning Outcomes On successful completion of this course, students should be able to:
CLO 1: understand VaR and expected shortfall as risk measures
CLO 2: compute VaR and expected shortfall
CLO 3: model volatility using GARCH-type models
CLO 4: understand extreme-value theory
CLO 5: understand backtesting and stress testing

Pre-requisites (and Co-requisites) Pass in STAT3907 and STAT3910; or Pass in STAT4601 and (FINA2320 or STAT3809)
Capstone experience for actuarial science undergraduates (6 credits)

Course Type
Lecture-based course

Course Teaching & Learning Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures 36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tutorials 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading / Self study 100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assessment Methods and Weighting

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>40</td>
<td>CLO 1, 2, 3, 4, 5</td>
</tr>
<tr>
<td>Examination</td>
<td>One-hour written examination</td>
<td>60</td>
<td>CLO 1, 2, 3, 4, 5</td>
</tr>
</tbody>
</table>

Required/recommended reading and online materials


Course Website
http://moodle.hku.hk

STAT4711  Capstone experience for actuarial science undergraduates (6 credits)  Academic Year 2021

Offering Department Statistics & Actuarial Science

Course Co-ordinator Prof G Yin, Statistics & Actuarial Science (ug_enquiry@saas.hku.hk)

Teachers Involved (Various teachers as the assessors of oral presentations and written reports, Statistics & Actuarial Science)

Course Objectives
No formal teaching will be given for this course. Students are expected to devote 120-140 hours working on this project. Students will work in groups of three to five under the supervision of a teacher and/or an industry supervisor. Students are required to give a presentation on their work two to three weeks before the end of the semester, and submit their final report at the end of the semester.

Topics acceptable for projects in this course can be related to any of the traditional actuarial areas of practice such as life insurance, pension, finance, investment, enterprise risk management and general insurance. Students are also encouraged to suggest topics in non-traditional actuarial areas provided they can find a suitable teacher and/or industry supervisor. All topics for this course will be subject to final approval by the Department to ensure relevance to actuarial science.

Students will need to decide on the topic for a practical project, conduct market research regarding industry activities related to the topic, and make suggestion on a solution of the problem identified in their project.

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

CLO 1 define a practical problem, discuss the issues faced by different stakeholders, and design workable solutions for the problems
CLO 2 integrate theoretical results and practical approaches, and to specify limitations of current developments
CLO 3 work in a team and to collaborate with members with different background
CLO 4 deliver actuarial results effectively in a written report and in oral presentations
CLO 5 develop further logical, critical thinking, creativity, technical report writing, communication and consultation skills
CLO 6 explain to a non-actuarial audience the approaches of actuarial science as applied to problems in a financial security system

Pre-requisites (and Co-requisites and Impermissible combinations)
Pass in at least 24 credits of advanced level disciplinary core/elective courses in BSc (Actuarial Science) programme including (Pass in STAT3901, or already enrolled in this course; or Pass in STAT3909, or already enrolled in this course); and This capstone course is only for BSc (Actuarial Science) students, and is mutually exclusive with STAT4767 and STAT4798.

The earliest that a student is allowed to take this capstone course is their year 3 study.

Offer in 2021 - 2022
Y 1st sem 2nd sem Offer in 2022 - 2023 : Y Examination No Exam

Grade Descriptors (A+ to F)
A  Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.

### Course Objectives

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

- **CLO 1**: 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 familiar and some unfamiliar situations. **Apply effective organizational and presentational skills.**

- **CLO 2**: 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.**

- **CLO 3**: 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. **Shoe very little or no ability to apply knowledge to solve problems.** Organization and presentational skills are minimally effective or ineffective.

### Assessment Methods and Weighting

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral presentation</td>
<td>oral presentation, progress, attendance and in-class discussion</td>
<td>50</td>
<td>CLO 1,2,3,4,5,6</td>
</tr>
<tr>
<td>Research report</td>
<td>written report</td>
<td>50</td>
<td>CLO 1,2,3,4,5</td>
</tr>
</tbody>
</table>

### Communication-intensive Course

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Project-based course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Teaching</td>
<td></td>
</tr>
<tr>
<td>&amp; Learning Activities</td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>Reading / Self study</td>
</tr>
<tr>
<td>Details</td>
<td>Tutorials, group work/project, reading/self-study</td>
</tr>
<tr>
<td>No. of Hours</td>
<td>120</td>
</tr>
</tbody>
</table>

### Course Website

http://moodle.hku.hk

### STAT4767

**Actuarial science internship (6 credits)**

<table>
<thead>
<tr>
<th>Offering Department</th>
<th>Statistics &amp; Actuarial Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Co-ordinator</td>
<td>Dr K P Wat, Statistics &amp; Actuarial Science (<a href="mailto:watkp@hku.hk">watkp@hku.hk</a>)</td>
</tr>
<tr>
<td>Teachers Involved</td>
<td>(Various teachers as the assessors of oral presentations and written reports, Statistics &amp; Actuarial Science)</td>
</tr>
<tr>
<td>Course Objectives</td>
<td>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.</td>
</tr>
<tr>
<td>Course Contents &amp; Topics</td>
<td>This course will include a written report which should emphasize important working/educational experiences encountered by the student during his/her internship. In many situations, this would mean a report of the project(s) that the student has been involved in during his/her internship.</td>
</tr>
<tr>
<td>Course Learning Outcomes</td>
<td>On successful completion of this course, students should be able to:</td>
</tr>
<tr>
<td></td>
<td>CLO 1: gain practical experiences during internship</td>
</tr>
<tr>
<td></td>
<td>CLO 2: describe basic actuarial practices learned during the internship</td>
</tr>
<tr>
<td></td>
<td>CLO 3: explain how actuarial theories learned in Universty can be applied in practice</td>
</tr>
<tr>
<td></td>
<td>CLO 4: provide context for specific technical skills developed in basic actuarial courses</td>
</tr>
<tr>
<td>Pre-requisites (and Co-requisites and Impermissible combinations)</td>
<td>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.</td>
</tr>
<tr>
<td>Offer in 2021 - 2022</td>
<td>Y 1st sem 2nd sem Offer in 2022 - 2023: Y</td>
</tr>
<tr>
<td>Grade Descriptors Distinction/Pass/Fail</td>
<td></td>
</tr>
<tr>
<td>Distinction</td>
<td>Demonstrates excellent ability in applying knowledge to solve problems in the workplace. Demonstrates excellent performance in handling and carrying out the work required in the job or assigned by supervisor(s). Establishes highly effective collaboration and communication with supervisor(s), colleagues, and clients in the job. Successfully fulfills the requirements set out in the Course Description regarding working hours, with excellent performance in written and oral report, and excellent evaluation by supervisor(s), etc.</td>
</tr>
<tr>
<td>Pass</td>
<td>Able to apply knowledge to solve problems in the workplace. Successfully handles and carries out the work required in the job or assigned by supervisor(s). Establishes effective collaboration and communication with supervisor(s), colleagues, and clients in the job. Successfully fulfills the requirements set out in the Course Description regarding working hours, written and oral report, and evaluation by supervisor(s), etc. Students demonstrating excellent performance in the above would be awarded a grade of &quot;Distinction&quot;.</td>
</tr>
<tr>
<td>Fail</td>
<td>Very limited or no ability to solve problems in the workplace. Fails to handle or carry out the work required in the job or assigned by supervisor(s). Fails to establish effective collaboration or communication with supervisor(s), other colleagues, or clients in the job. Fails to satisfy the requirements set out in the Course Description regarding working hours, written and oral report, or evaluation by supervisor(s), etc.</td>
</tr>
</tbody>
</table>

### Communication-intensive Course

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Internship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Teaching</td>
<td></td>
</tr>
<tr>
<td>&amp; Learning Activities</td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>Internship work</td>
</tr>
<tr>
<td>Details</td>
<td>it is expected that students are to work at least 6 months or 120 working days</td>
</tr>
<tr>
<td>No. of Hours</td>
<td>960</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral presentation</td>
<td>oral presentation and in-class discussion</td>
<td>40</td>
<td>CLO 1,2,3,4</td>
</tr>
<tr>
<td>Written report</td>
<td>written report</td>
<td>60</td>
<td>CLO 1,2,3,4</td>
</tr>
</tbody>
</table>

### Course Website

http://moodle.hku.hk

### Additional Course Information

- Despite no weighting for this assessment component, the completion of the employer's evaluation form by the employer/direct supervisor is required for passing the course. Satisfactory completion of this course can be counted towards the Capstone requirement. Details of internship will be recorded on the student's transcript. This course will be assessed on "Pass/Fail" basis. Students who are interested to enrol in this course should contact the Department to obtain the approval. Enrolment of this course is not conducted via the online course selection system and should be made through the relevant Department/School office after approval has been obtained from the course coordinator.

### STAT4798

**Statistics and actuarial science project (6 credits)**

<table>
<thead>
<tr>
<th>Offering Department</th>
<th>Statistics &amp; Actuarial Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Co-ordinator</td>
<td>Prof S M S Lee, Statistics &amp; Actuarial Science (<a href="mailto:amslee@hku.hk">amslee@hku.hk</a>)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quota</td>
<td>50</td>
</tr>
<tr>
<td>Course Objectives</td>
<td>This course is an advanced course in risk theory which extends various topics discussed in STAT3906. It discusses utility theory, ruin theory, aggregate claims process, and related topics.</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Pre-requisites</td>
<td>Pass in at least 24 credits of advanced level disciplinary core/elective courses in BSc(Actuarial Science) programme including STAT3902 and STAT3907; and Pass or already enrolled in at least one of the following courses: STAT3911, STAT4602, STAT4904; and This capstone course is only for BSc(Actuarial Science) students; and subject to the consent of course coordinator. This course is mutually exclusive with STAT4711. The earliest that a student is allowed to take this capstone course is their year 3 study.</td>
</tr>
<tr>
<td>Course Learning Outcomes</td>
<td>On successful completion of this course, students should be able to: CLO 1 understand utility theory including some commonly used utility functions, Jensens inequality, risk aversion and utility maximization. CLO 2 define discrete and continuous ruin models. CLO 3 calculate the adjustment coefficient, Lundbergs inequality and Tijms approximation in ruin theory. CLO 4 understand the effect of reinsurance and change of parameters on ruin probability. CLO 5 understand non-homogeneous birth process and its applications as contagion models for claim frequencies. CLO 6 understand mixed Poisson process and its applications including the inflation model and the IBNR model. CLO 7 derive the relationship between stop-loss moments and equilibrium distributions.</td>
</tr>
<tr>
<td>Grade Descriptors (A+ to F)</td>
<td>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. Demonstrate ability to draw appropriate conclusions. 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. Use of relevant information from sources, showing ability to make meaningful comparisons between different interpretations and to quote/reference aptly. Correct use of data of results to draw appropriate conclusions. Apply effective organizational and presentational skills. D Demonstrate partial but limited grasp of the subject, with retention of some relevant information, of the subject. Evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Demonstrate use and reference of several sources, but mainly through summary rather than analysis and comparison. Limited ability to use data and results to draw appropriate conclusions. Apply limited or barely effective organizational and presentational skills. Fail Demonstrate evidence of little or no grasp of the knowledge and understanding of the subject. Evidence of little or lack of analytical and critical abilities, logical and coherent thinking. Limited use of secondary sources and no critical comparison of them. Misuse of data and results and/or unable to draw appropriate conclusions. Organization and presentational skills are minimally effective or ineffective.</td>
</tr>
</tbody>
</table>
This course is an advanced course in actuarial science which discusses selected topics which potential graduate management with emphasis in insurance; Other topics as determined by the instructor.

The contents will be chosen from the following topics:
- Enterprise risk management; Risk identification and taxonomy; Copulas; Extreme value theory; Applications to risk

On successful completion of this course, students should be able to:
- CLO 1 understand, identify and classify different types of risks
- CLO 2 understand and apply copula to model risk dependence
- CLO 3 understand and apply extreme value theory
- CLO 4 explain approaches for managing risks

Assessment Methods and Weighting

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

Course Website: http://moodle.hku.hk

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 presenational 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 presenational skills.
- F: 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 presenational skills are minimally effective or ineffective.
## STAT4903 Actuarial techniques for general insurance (6 credits)

<table>
<thead>
<tr>
<th>Offering Department</th>
<th>Statistics &amp; Actuarial Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Co-ordinator</td>
<td>Dr A G Benchimol, Statistics &amp; Actuarial Science (<a href="mailto:benchi@hku.hk">benchi@hku.hk</a>)</td>
</tr>
<tr>
<td>Teachers Involved</td>
<td>(Dr A G Benchimol, Statistics &amp; Actuarial Science)</td>
</tr>
</tbody>
</table>

### Course Objectives

The purpose of this course is to develop knowledge of the basic techniques for ratemaking and estimating claim liabilities for general insurance. Application of the actuarial techniques to resolve general insurance problems will be emphasized. The course also provides general knowledge on the general insurance markets in Hong Kong and China. Students will acquire the fundamental concept on general insurance actuarial science together with the supporting calculations.

### Course Contents & Topics

1. General Insurance Markets in Hong Kong, Taiwan and PRC
   - Introduction of general insurance markets
   - Regulations on general insurance
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
   - e.g. predictive modeling, Enterprise Risk Management, etc.

### Course Learning Outcomes

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

- **CLO 1** understand the feature and underlying risk of general insurance products
- **CLO 2** calculate the premium rate for basic general insurance products
- **CLO 3** estimate the claims liabilities for general insurance products

### Pre-requisites (and Co-requisites and Impermissible combinations)

Pass in STAT3906

### Offer in 2021 - 2022

| Grade Descriptors (A+ to F) | Offers in 2022 - 2023 | Examination | Dec |
|-----------------------------|------------------------|-------------|
| A                           | Y                      |             |
| B                           | 1st sem                |             |
| C                           | Offer in 2022 - 2023: Y|             |

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

### Communication-intensive Course

- **N**: No

### Course Type

Lecture-based course

### Course Teaching & Learning Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading/Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

### Assessment Methods and Weighting

<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>25</td>
<td>CLO 1,2,3</td>
</tr>
<tr>
<td>Examination</td>
<td>One 3-hour written examination</td>
<td>75</td>
<td>CLO 2,3</td>
</tr>
</tbody>
</table>

### Required/recommended reading and online materials

- http://moodle.hku.hk
- 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
## STAT4904

<table>
<thead>
<tr>
<th>Course Teaching &amp; Learning Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lectures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment Methods and Weighting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, class test(s) and computer-based project(s))</td>
<td>25</td>
</tr>
<tr>
<td>Examination</td>
<td>One 2-hour written examination</td>
<td>75</td>
</tr>
<tr>
<td>Required/recommended reading and online materials</td>
<td>An Introduction to Statistical Learning, with Applications in R, James, Witten, Hastie, Tibshirani, 2013, New York: Springer</td>
<td></td>
</tr>
<tr>
<td>Course Website</td>
<td><a href="http://moodle.hku.hk">http://moodle.hku.hk</a></td>
<td></td>
</tr>
</tbody>
</table>

### Course Objectives

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

- CLO 1: 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.
- CLO 2: 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.
- CLO 3: 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.
- CLO 4: 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.
- CLO 5: demonstrate limited or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

### Communication-intensive Course

- N

### Offer in 2021 - 2022 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.
- F: demonstrate limited 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.

### Pre-requisites (and Co-requisites and Impermissible combinations)

- Pass in STAT3907 or STAT3600, and not for students who have passed in STAT3612, or already enrolled in this course; and For BSc(Actuarial Science) students only.

### Course Content and Topics

- Basics of statistical learning, cross-validation, linear model selection and regularization (subset selection, shrinkage methods, dimension reduction methods), generalised linear model, tree-based methods (decision trees, bagging, boosting, random forests), principal component analysis, naïve Bayes classification, cluster analysis (K-means clustering, hierarchical clustering).
- Nonparametric statistical inference: sample quantiles; sign and rank tests; Kolmogorov-Smirnov test; signed likelihood ratio statistics; empirical likelihood.
- Computationally-intensive methods: cross-validation; bootstrap; permutation methods.
- Robust methods: measures of robustness; M-estimator; L-estimator; R-estimator; estimating functions.
- Theory: modes of convergence; stochastic orders; laws of large numbers; central limit theorems; delta method; Edgeworth expansions; saddlepoint approximations.
- Nonparametric statistical inference: sample quantiles; sign and rank tests; Kolmogorov-Smirnov test; nonparametric regression; density estimation; kernel methods.

### Course Learning Outcomes

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

- CLO 1: comprehend the language and technicalities found in statistical research literature.
Course C
Offering Department
Statistics & Actuarial Science
Grade Descriptors
(A+ to F)

Pre-requisites
Pass in STAT3600 or STAT3907
Course Website
http://moodle.hku.hk

Communication-intensive Course
N

Course Type
Lecture-based course
Course Teaching & Learning Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

Required/recommended reading and online materials


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

- CLO 1 understand the fundamental measure theory and probability theory
- CLO 2 learn the general concept of integration, understand the monotone convergence theorem, Fatou's lemma and dominated convergence theorem
- CLO 3 understand the concept of conditional expectation
- CLO 4 have some elementary knowledge of martingale

Pre-requisites
Pass in STAT3603 or STAT3903

Offer in 2021 - 2022
Y 1st sem Offer in 2022 - 2023 : Y

Graduate Course

<table>
<thead>
<tr>
<th>Grade Descriptors (A+ to F)</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
</tr>
</tbody>
</table>

Course Design

- CLO 2 understand the use of standard mathematical tools for conducting statistical research
- CLO 3 apply a variety of research tools to solve standard statistical problems
- CLO 4 acquire exposure to some developments in contemporary statistical research

Communication-intensive Course
N

Course Type
Lecture-based course
Course Teaching & Learning Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>
## Computational statistics (6 credits)

**Offering Department**  
Statistics & Actuarial Science

**Course Co-ordinator**  
Prof G Yin, Statistics & Actuarial Science (gyin@hku.hk)

**Teachers Involved**  
(Prof G Yin, Statistics & Actuarial Science)

**Course Objectives**  
This course aims to give undergraduate and postgraduate students in statistics a background in modern computationally intensive methods in statistics. It emphasizes the role of computation as a fundamental tool of discovery in data analysis, of statistical inference, and for development of statistical theory and methods.

**Course Contents & Topics**  
Contents include: Bayesian statistics, Markov chain Monte Carlo methods including Gibbs sampler, the Metropolis-Hastings algorithm, and data augmentation; Generation of random variables including the inversion methods, rejection sampling, the sampling/importance resampling method; Optimization techniques including Newton’s method, expectation-maximization (EM) algorithm and its variants, and minorization-maximization (MM) algorithms; Integration including Laplace approximations, Gaussian quadrature, the importance sampling method; and other topics such as Hidden Markov models, neural networks, and Bootstrap methods.

**Course Learning Outcomes**  
On successful completion of this course, students should be able to:

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

**Pre-requisites (and Co-requisites and Impermissible combinations)**  
Pass in STAT3600 or STAT3907

**Offer in 2021 - 2022**  
Y 1st sem  Offer in 2022 - 2023 : Y

**Assessment Methods and Weighting**  
<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, tutorials, and a class test)</td>
<td>25</td>
<td>CLO 1,2,3,4</td>
</tr>
<tr>
<td>Examination</td>
<td>One 2-hour written examination</td>
<td>75</td>
<td>CLO 1,2,3,4</td>
</tr>
</tbody>
</table>

**Grade Descriptors (A+ to F)**

- **A**  
  Demonstrate thorough mastery at an advanced level of extensive knowledge and skills required for attaining all the course learning outcomes. Show strong analytical and critical abilities and logical thinking, with evidence of original thought, and ability to apply knowledge to a wide range of complex, familiar and unfamiliar situations. Apply highly effective organizational and presentational skills.

- **B**  
  Demonstrate substantial command of a broad range of knowledge and skills required for attaining at least most of the course learning outcomes. Show evidence of analytical and critical abilities and logical thinking, and ability to apply knowledge to familiar and some unfamiliar situations. Apply effective organizational and presentational skills.

- **C**  
  Demonstrate general but incomplete command of knowledge and skills required for attaining most of the course learning outcomes. Show evidence of some analytical and critical abilities and logical thinking, and ability to apply knowledge to most familiar situations. Apply moderately effective organizational and presentational skills.

- **D**  
  Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.

- **Fail**  
  Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

**Communication-intensive Course**  
N

**Course Type**  
Lecture-based course

**Course Teaching & Learning Activities**  
<table>
<thead>
<tr>
<th>Activities</th>
<th>Details</th>
<th>No. of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Tutorials</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Reading / Self study</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Assessment Methods and Weighting**  
<table>
<thead>
<tr>
<th>Methods</th>
<th>Details</th>
<th>Weighting in final course grade (%)</th>
<th>Assessment Methods to CLO Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>Coursework (assignments, practical work, and a term test)</td>
<td>50</td>
<td>CLO 1,2,3,4,5</td>
</tr>
<tr>
<td>Examination</td>
<td>One 2-hour written examination</td>
<td>50</td>
<td>CLO 1,2,3,4,5</td>
</tr>
</tbody>
</table>

**Required/recommended reading and online materials**  

**Course Website**  
http://moodle.hku.hk
### Course Objectives
This course introduces modern methods for constructing and evaluating statistical models and their implementation using popular computing software, such as R or Python. It will cover both the underlying principles of each modelling approach and the model estimation procedures.

### Course Contents & Topics
Topics from: (i) Linear regression models; (ii) Generalized linear models; (iii) Model selection and regularization; (iv) Kernel and local polynomial regression; selection of smoothing parameters; (v) Generalized additive models; (vi) Hidden Markov models and Bayesian networks.

### Course Learning Outcomes
On successful completion of this course, students should be able to:
- CLO 1: 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.
- CLO 2: 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.
- CLO 3: 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.
- CLO 4: 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.
- CLO 5: 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.

### Pre-requisites (and Co-requisites and Impermissible combinations)
Pass in STAT3600 or STAT3907

<table>
<thead>
<tr>
<th>Grade Descriptors (A+ to F)</th>
<th>Offer in 2021 - 2022</th>
<th>Y</th>
<th>1st sem</th>
<th>2nd sem</th>
<th>Offer in 2022 - 2023</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Examination</td>
<td>Dec</td>
<td>May</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Course Type
Lecture-based course

### Course Teaching & Learning Activities
- **Activities**
  - Lectures
  - Tutorials
  - Reading / Self study
- **Details**
  - No. of Hours
  - Lectures: 24
  - Tutorials: 12
  - Reading / Self study: 100

### Assessment Methods and Weighting
- **Methods**
  - Assignments
  - Examination
- **Details**
  - Weighting in final course grade (%)
  - Assessment Methods to CLO Mapping
  - Assignments: 50 (CLO 1,2,3)
  - Examination: One 2-hour written examination 50 (CLO 1,2,3)

### Required/recommended reading and online materials
- R.H. Myers et al., 2010: Generalized Linear Models (2nd ed.), Wiley
- W. Hardle et al., 2004: Nonparametric and Semi-parametric Models. Springer
- M. Scutari & J. Denis, 2015: Bayesian Networks: with Examples in R, CRC Press

### Course Website
http://moodle.hku.hk

### STAT7615
Advanced quantitative risk management and finance (6 credits)

<table>
<thead>
<tr>
<th>Offering Department</th>
<th>Academic Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics &amp; Actuarial Science</td>
<td>2021</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quota</th>
</tr>
</thead>
<tbody>
<tr>
<td>---</td>
</tr>
</tbody>
</table>

### Course Co-ordinator
Dr Z. Zhang, Statistics & Actuarial Science (zhangzg08@hku.hk)

### Teachers Involved
(Dr Z. Zhang, Statistics & Actuarial Science)

### Course Contents & Topics
Contents include: Elementary Stochastic Calculus; Basic Monte Carlo and Quasi-Monte Carlo Methods; Variance Reduction Techniques; Simulating the value of options and the value-at-risk for risk management; Review of univariate volatility models; multivariate volatility models; Value-at-risk and expected shortfall; estimation, backtesting and stress testing; Extreme value theory for risk management.

### Course Learning Outcomes
On successful completion of this course, students should be able to:
- CLO 1: Apply Monte Carlo methods to determine the value of options and other derivative securities
- CLO 2: Predict volatility of a set of securities using appropriate models
- CLO 3: Estimate the value-at-risk under extreme value theory

### Pre-requisites (and Co-requisites and Impermissible combinations)
Pass in STAT4608

<table>
<thead>
<tr>
<th>Grade Descriptors (A+ to F)</th>
<th>Offer in 2021 - 2022</th>
<th>Y</th>
<th>2nd sem</th>
<th>Offer in 2022 - 2023</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Examination</td>
<td>May</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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.
- 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.
- F: 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.

### Reading / Self study
- R.H. Myers et al., 2010: Generalized Linear Models (2nd ed.), Wiley
- W. Hardle et al., 2004: Nonparametric and Semi-parametric Models. Springer
- M. Scutari & J. Denis, 2015: Bayesian Networks: with Examples in R, CRC Press

### Course Website
http://moodle.hku.hk
familiar situations. Apply moderately effective organizational and presentational skills.

D
Demonstrate partial but limited command of knowledge and skills required for attaining some of the course learning outcomes. Show evidence of some coherent and logical thinking, but with limited analytical and critical abilities. Show limited ability to apply knowledge to solve problems. Apply limited or barely effective organizational and presentational skills.

Fail
Demonstrate little or no evidence of command of knowledge and skills required for attaining the course learning outcomes. Lack of analytical and critical abilities, logical and coherent thinking. Show very little or no ability to apply knowledge to solve problems. Organization and presentational skills are minimally effective or ineffective.

Communication-intensive Course

Course Type
Lecture-based course

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

Assessment Methods and Weighting
Methods | Details | Weighting in final course grade (%) | Assessment Methods to CLO Mapping
---|---|---|---
Assignments | Coursework (assignments, 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
Daniele Jon: Financial Risk Forecasting (Willy 2011)

Course Website
http://moodle.hku.hk
REGULATIONS FOR THE DEGREE OF
BACHELOR OF SCIENCE IN ACTUARIAL SCIENCE
BSc(ActuarSc)

These regulations apply to students admitted under the 4-year 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

AS1 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.

---

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

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

Curriculum requirements and progression in curriculum

**AS5**

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

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

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

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

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

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

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

(i) failed to complete successfully 36 or more credits in two consecutive semesters (not including the summer semester), except where they are not required to take such a number of credits in the two given semesters, or

(ii) failed to achieve an average Semester GPA of 1.0 or higher for two consecutive semesters (not including the summer semester), or

(iii) exceeded the maximum period of registration specified in AS3, unless otherwise permitted by the Board of the Faculty.
Advanced standing

AS6 Advanced standing may be granted to candidates in recognition of studies completed successfully before admission to the 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 values:

<table>
<thead>
<tr>
<th>Class of honours</th>
<th>GGPA range</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Class Honours</td>
<td>3.60 – 4.30</td>
</tr>
<tr>
<td>Second Class Honours</td>
<td>(2.40 – 3.59)</td>
</tr>
<tr>
<td>Division One</td>
<td>3.00 – 3.59</td>
</tr>
<tr>
<td>Division Two</td>
<td>2.40 – 2.99</td>
</tr>
<tr>
<td>Third Class Honours</td>
<td>1.70 – 2.39</td>
</tr>
<tr>
<td>Pass</td>
<td>1.00 – 1.69</td>
</tr>
</tbody>
</table>

(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.

---

2 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 THE DEGREE OF
BACHELOR OF SCIENCE IN ACTUARIAL SCIENCE
BSc(ActuarSc)

These regulations apply to students admitted under the 4-year 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

AS1 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.

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 values:

<table>
<thead>
<tr>
<th>Class of honours</th>
<th>GGPA range</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Class Honours</td>
<td>3.60 – 4.30</td>
</tr>
<tr>
<td>Second Class Honours</td>
<td>(2.40 – 3.59)</td>
</tr>
<tr>
<td>Division One</td>
<td>3.00 – 3.59</td>
</tr>
<tr>
<td>Division Two</td>
<td>2.40 – 2.99</td>
</tr>
<tr>
<td>Third Class Honours</td>
<td>1.70 – 2.39</td>
</tr>
<tr>
<td>Pass</td>
<td>1.00 – 1.69</td>
</tr>
</tbody>
</table>

(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.

---

2 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 THE DEGREE OF
BACHELOR OF SCIENCE IN ACTUARIAL SCIENCE
BSc(ActuarSc)

These regulations apply to students admitted under the 4-year curriculum to the BSc in Actuarial Science degree curriculum to the first year in the academic year 2016-17.

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

Definitions

AS1 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.

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 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
(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

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

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:

<table>
<thead>
<tr>
<th>Class of honours</th>
<th>CGPA range</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Class Honours</td>
<td>3.60 – 4.30</td>
</tr>
<tr>
<td>Second Class Honours</td>
<td>(2.40 – 3.59)</td>
</tr>
<tr>
<td>Division One</td>
<td>3.00 – 3.59</td>
</tr>
<tr>
<td>Division Two</td>
<td>2.40 – 2.99</td>
</tr>
<tr>
<td>Third Class Honours</td>
<td>1.70 – 2.39</td>
</tr>
<tr>
<td>Pass</td>
<td>1.00 – 1.69</td>
</tr>
</tbody>
</table>
(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 curriculum to the first year in the academic year 2019-20 and thereafter, and students admitted directly to the second year in the academic year 2020-21 and thereafter, and students admitted directly to the third year in the academic year 2021-22)

(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

---

1 These regulations are applicable to candidates admitted from 2019-20 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:

$$GPA = \frac{\sum \text{Course Grade Point} \times \text{Course Credit Value}}{\sum \text{Course Credit Value}}$$

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

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

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

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

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

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

A ‘transcript’ refers to a transcript of the record of study of a candidate, issued by the Registry of the University.

UG 2 Advanced standing:

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

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

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

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

UG 3 Period of study:

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

UG 4 Progression in curriculum:

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

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

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

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

(e) Unless otherwise permitted by the Board of the Faculty, candidates shall be recommended for discontinuation of their studies if they have:

(i) failed to complete successfully 36 or more credits in two consecutive semesters (not including the summer semester), except where they are not required to take such a number of credits in the two given semesters, or

(ii) failed to achieve an average Semester GPA of 1.0 or higher for two consecutive semesters (not including the summer semester), or

(iii) exceeded the maximum period of registration specified in the regulations of the degree.

UG 5 Requirements for graduation:

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

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

(b) successful completion of 6 credits in Chinese language enhancement\(^4\);

(c) unless otherwise prescribed in the curriculum regulations and syllabuses, successful completion of 36 credits of courses in the Common Core Curriculum, comprising at least one and not more than two courses from each Area of Inquiry\(^5\) 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

---

\(^2\) 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.
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 follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Standard</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>Excellent</td>
<td>4.3</td>
</tr>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>Good</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>Satisfactory</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>Satisfactory</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td></td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>Pass</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>Pass</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
<td>0</td>
</tr>
</tbody>
</table>

---

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 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 in accordance with the following Graduate GPA scores, with all courses taken (including failed courses) carrying equal weighting which are proportionate to their credit values:

<table>
<thead>
<tr>
<th>Class of honours</th>
<th>GGPA range</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Class Honours</td>
<td>3.60 – 4.30</td>
</tr>
<tr>
<td>Second Class Honours</td>
<td>(2.40 – 3.59)</td>
</tr>
<tr>
<td>Division One</td>
<td>3.00 – 3.59</td>
</tr>
<tr>
<td>Division Two</td>
<td>2.40 – 2.99</td>
</tr>
<tr>
<td>Third Class Honours</td>
<td>1.70 – 2.39</td>
</tr>
<tr>
<td>Pass</td>
<td>1.00 – 1.69</td>
</tr>
</tbody>
</table>

(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 CURRICULA

Regulations for First Degree Curricula (for students admitted under the 4-year curriculum to the first year in the academic year 2018-19, students admitted directly to the second year in the academic year 2019-20, and students admitted directly to the third year in the academic year 2020-21)

(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.

Note: 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.
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:

\[ \text{GPA} = \frac{\sum_i \text{Course Grade Point} \times \text{Course Credit Value}}{\sum_i \text{Course Credit Value}} \]

(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.
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.

Unless otherwise permitted by the Board of the Faculty, candidates shall be recommended for discontinuation of their studies if they have:

(i) failed to complete successfully 36 or more credits in two consecutive semesters (not including the summer semester), except where they are not required to take such a number of credits in the two given semesters, or
(ii) failed to achieve an average Semester GPA of 1.0 or higher for two consecutive semesters (not including the summer semester), or
(iii) exceeded the maximum period of registration specified in the regulations of the degree.

UG 5 Requirements for graduation:

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

(a) successful completion of 12 credits in English language enhancement, including 6 credits in Core University English\(^2\) and 6 credits in an English in the Discipline course\(^3\);
(b) successful completion of 6 credits in Chinese language enhancement\(^4\);
(c) successful completion of 36 credits of courses in the Common Core Curriculum, comprising at least one and not more than two courses from each Area of Inquiry\(^5\) 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 follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Standard</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>Excellent</td>
<td>4.3</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td></td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>Satisfactory</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td></td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>Pass</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
<td>0</td>
</tr>
</tbody>
</table>

---

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 divisions\(^7\): 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 values\(^8\):

<table>
<thead>
<tr>
<th>Class of honours</th>
<th>GGPA range</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Class Honours</td>
<td>3.60 – 4.30</td>
</tr>
<tr>
<td>Second Class Honours</td>
<td>(2.40 – 3.59)</td>
</tr>
<tr>
<td>Division One</td>
<td>3.00 – 3.59</td>
</tr>
<tr>
<td>Division Two</td>
<td>2.40 – 2.99</td>
</tr>
<tr>
<td>Third Class Honours</td>
<td>1.70 – 2.39</td>
</tr>
<tr>
<td>Pass</td>
<td>1.00 – 1.69</td>
</tr>
</tbody>
</table>

(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 CURRICULA

Regulations for First Degree Curricula (for students admitted under the 4-year curriculum to the first year in the academic year 2017-18, students admitted directed to the second year in the academic year 2018-19 and students admitted directly to the third year in the academic year 2019-20)

(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.

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.
‘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:

\[
GPA = \frac{\sum \text{Course Grade Point} \times \text{Course Credit Value}}{\sum \text{Course Credit Value}}
\]

(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.
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.

Unless otherwise permitted by the Board of the Faculty, candidates shall be recommended for discontinuation of their studies if they have:

(i) failed to complete successfully 36 or more credits in two consecutive semesters (not including the summer semester), except where they are not required to take such a number of credits in the two given semesters, or
(ii) failed to achieve an average Semester GPA of 1.0 or higher for two consecutive semesters (not including the summer semester), or
(iii) exceeded the maximum period of registration specified in the regulations of the degree.

UG 5 Requirements for graduation:

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

(a) successful completion of 12 credits in English language enhancement, including 6 credits in Core University English\(^2\) and 6 credits in an English in the Discipline course\(^3\);
(b) successful completion of 6 credits in Chinese language enhancement\(^4\);
(c) successful completion of 36 credits of courses in the Common Core Curriculum, comprising at least one and not more than two courses from each Area of Inquiry\(^5\) 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 follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Standard</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>Excellent</td>
<td>4.3</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>Good</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>Satisfactory</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td></td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>Pass</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
<td>0</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Class of honours</th>
<th>GGPA range</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Class Honours</td>
<td>3.60 – 4.30</td>
</tr>
<tr>
<td>Second Class Honours</td>
<td></td>
</tr>
<tr>
<td>Division One</td>
<td>(2.40 – 3.59)</td>
</tr>
<tr>
<td>Division Two</td>
<td></td>
</tr>
<tr>
<td>Third Class Honours</td>
<td>1.70 – 2.39</td>
</tr>
<tr>
<td>Pass</td>
<td>1.00 – 1.69</td>
</tr>
</tbody>
</table>

(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 CURRICULA

Regulations for First Degree Curricula (for students admitted under the 4-year 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:

\[
\text{GPA} = \frac{\sum_i \text{Course Grade Point} \times \text{Course Credit Value}}{\sum_i \text{Course Credit Value}}
\]

(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
The number of transferred credits may be recorded in the transcript of the candidate, but the results of courses completed at other institutions shall not be included in the calculation of the GPA. The number of credits to be transferred shall not exceed half of the total credits normally required under the degree curricula of the candidates during their candidature at the University.

(e) Unless otherwise permitted by the Board of the Faculty, candidates shall be recommended for discontinuation of their studies if they have:

(i) failed to complete successfully 36 or more credits in two consecutive semesters (not including the summer semester), except where they are not required to take such a number of credits in the two given semesters, or

(ii) failed to achieve an average Semester GPA of 1.0 or higher for two consecutive semesters (not including the summer semester), or

(iii) exceeded the maximum period of registration specified in the regulations of the degree.

**UG 5  Requirements for graduation:**

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

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

(b) successful completion of 6 credits in Chinese language enhancement\(^4\);

(c) successful completion of 36 credits of courses in the Common Core Curriculum, comprising at least one and not more than two courses from each Area of Inquiry\(^5\) 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 follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Standard</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>Excellent</td>
<td>4.3</td>
</tr>
<tr>
<td>A</td>
<td>Good</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>Satisfactory</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>Pass</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>Excellent</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>Good</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>Satisfactory</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>Pass</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>Excellent</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>Satisfactory</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>Pass</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
<td>0</td>
</tr>
</tbody>
</table>

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 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 in accordance with the following Cumulative GPA scores, with all courses taken (including failed courses) carrying equal weighting:

<table>
<thead>
<tr>
<th>Class of honours</th>
<th>CGPA range</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Class Honours</td>
<td>3.60 – 4.30</td>
</tr>
<tr>
<td>Second Class Honours</td>
<td>(2.40 – 3.59)</td>
</tr>
<tr>
<td>Division One</td>
<td>3.00 – 3.59</td>
</tr>
<tr>
<td>Division Two</td>
<td>2.40 – 2.99</td>
</tr>
<tr>
<td>Third Class Honours</td>
<td>1.70 – 2.39</td>
</tr>
<tr>
<td>Pass</td>
<td>1.00 – 1.69</td>
</tr>
</tbody>
</table>

(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.

---

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 curriculum to the first year in the academic year 2013-14, and students admitted directly to the third year in 2015-16)

(See also General Regulations)

UG I 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.

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&B SocSc, BSc(Sp&HearSc), and B Nurs, 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.)
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:

\[ GPA = \frac{\sum \text{Course Grade Point} \times \text{Course Credit Value}}{\sum \text{Course Credit Value}} \]

(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 English\(^2\) and 6 credits in an English in the Discipline course\(^3\);
(b) successful completion of 6 credits in Chinese language enhancement\(^4\);
(c) successful completion of 36 credits of courses in the Common Core Curriculum, comprising at least one and not more than two courses from each Area of Inquiry\(^5\) 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.

UG 6  Exemption:

\(^2\) 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.
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.

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

**UG 8 Grading system:**

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Standard</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>Excellent</td>
<td>4.3</td>
</tr>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>Good</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>Satisfactory</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>Satisfactory</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td></td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>Pass</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>Pass</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
<td>0</td>
</tr>
</tbody>
</table>

(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 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 in accordance with the following Cumulative GPA scores, with all courses taken (including failed courses) carrying equal weighting:

<table>
<thead>
<tr>
<th>Class of honours</th>
<th>CGPA range</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Class Honours</td>
<td>3.60 – 4.30</td>
</tr>
<tr>
<td>Second Class Honours</td>
<td>(2.40 – 3.59)</td>
</tr>
<tr>
<td>Division One</td>
<td>3.00 – 3.59</td>
</tr>
<tr>
<td>Division Two</td>
<td>2.40 – 2.99</td>
</tr>
<tr>
<td>Third Class Honours</td>
<td>1.70 – 2.39</td>
</tr>
<tr>
<td>Pass</td>
<td>1.00 – 1.69</td>
</tr>
</tbody>
</table>

(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.

\[^7\text{UG 9 is not applicable to the BChinMed, BDS and MBBS curricula.}\]
# Teaching Weeks 2021-22 for Undergraduate and Taught Postgraduate Students

<table>
<thead>
<tr>
<th>SUN</th>
<th>MON</th>
<th>TUE</th>
<th>WED</th>
<th>THUR</th>
<th>FRI</th>
<th>SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SEP-21</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>[22]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OCT-21</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>[13]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td><strong>NOV-21</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td><strong>DEC-21</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>[24]</td>
<td>[25]</td>
</tr>
<tr>
<td>26</td>
<td>[27]</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td>&lt;31&gt;</td>
</tr>
<tr>
<td><strong>JAN-22</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td><strong>FEB-22</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAR-22</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>APR-22</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>[5]</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>[15]</td>
<td>[16]</td>
</tr>
<tr>
<td>17</td>
<td>[18]</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td><strong>MAY-22</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>[2]</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>[9]</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td><strong>JUN-22</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>JUL-22</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td><strong>AUG-22</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FIRST SEMESTER: SEP 1 - DEC 23, 2021**

- **Week 1**: First Day of Teaching: Sep 1, 2021
- **Week 2**: Reading/ Field Trip Week: Oct 11 - 16, 2021
- **Week 3**: Last Day of Teaching: Nov 30, 2021
- **Week 4**: Revision Period: Dec 1 - 7, 2021
- **Week 5**: Assessment Period: Dec 8 - 23, 2021
- **Week 6**: Class Suspension Period for the Lunar New Year: Feb 1 - 7, 2022
- **Week 7**: Reading/ Field Trip Week: Mar 7 - 12, 2022
- **Week 8**: Class Suspension Period for the Lunar New Year: May 5 - 10, 2022
- **Week 9**: Reading/ Field Trip Week: May 17 - 22, 2022
- **Week 10**: Last Day of Teaching: Apr 30, 2022
- **Week 11**: Revision Period: May 2 - 7, 2022
- **Week 12**: Assessment Period: May 9 - 28, 2022

**SECOND SEMESTER: JAN 17 - MAY 28, 2022**

- **Week 1**: First Day of Teaching: Jan 17, 2022
- **Week 2**: Class Suspension Period for the Lunar New Year: Feb 1 - 7, 2022
- **Week 3**: Reading/ Field Trip Week: Mar 7 - 12, 2022
- **Week 4**: Class Suspension Period for the Lunar New Year: May 5 - 10, 2022
- **Week 5**: Reading/ Field Trip Week: May 17 - 22, 2022

**OPTIONAL SUMMER SEMESTER**

- **Week 1**: June 27 - Aug 20, 2022

---

**Notes:**

- First Semester: 12 Mondays and Tuesdays, 11 Wednesdays, 12 Thursdays, 11 Fridays, 12 Saturdays
- Second Semester: 11.5 Mondays, 12 Tuesdays and Wednesdays, 13 Thursdays, 12 Fridays and Saturdays
## Useful contacts and websites

<table>
<thead>
<tr>
<th>Department/School</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Sciences</td>
<td><a href="https://www.biosch.hku.hk/">https://www.biosch.hku.hk/</a></td>
</tr>
<tr>
<td>Biomedical Sciences</td>
<td><a href="http://www.sbms.hku.hk/">http://www.sbms.hku.hk/</a></td>
</tr>
<tr>
<td>Chemistry</td>
<td><a href="https://www.chemistry.hku.hk/">https://www.chemistry.hku.hk/</a></td>
</tr>
<tr>
<td>Earth Sciences</td>
<td><a href="https://www.earthsciences.hku.hk/">https://www.earthsciences.hku.hk/</a></td>
</tr>
<tr>
<td>Mathematics</td>
<td><a href="https://hkumath.hku.hk/web/index.php">https://hkumath.hku.hk/web/index.php</a></td>
</tr>
<tr>
<td>Physics</td>
<td><a href="https://www.physics.hku.hk/">https://www.physics.hku.hk/</a></td>
</tr>
<tr>
<td>Statistics and Actuarial Science</td>
<td><a href="https://saasweb.hku.hk/">https://saasweb.hku.hk/</a></td>
</tr>
</tbody>
</table>

| Academic Advising Office                               | Tel      : 3917 0128               |
|                                                       | Website  : http://aa0.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 Resources for Students (CEDARS) | Tel      : 3917 2305             |
|                                                          | Website  : https://www.cedars.hku.hk/ |

| University Health Service                              | Tel      : 3917 2501 (General enquiries) 2549 4686 (Medical appointments only) |
|                                                       | Website  : http://www.uhs.hku.hk       |

| Plagiarism                                             | Website  : https://tl.hku.hk/plagiarism/ |

(Please visit https://www.scifac.hku.hk/ for the latest updates of BSc courses, timetables, notices and forms)