Subject Description Form

Subject Code	AMA570
Subject Title	Current Topics in Actuarial Science
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	**Pre-requisite:** AMA530 Mathematics of Finance
Objectives	Actuarial science is a field of study that applies knowledge in Mathematics and Statistics to assess and manage risks, particularly in the insurance and finance industries. This course equips students with the knowledge and practical techniques in the actuarial workplace environment. It also introduces the updated and latest actuarial practices and regulations such as Hong Kong insurance regulation, International Financial Reporting Standard 17 (IFRS 17), Hong Kong Risk Based Capital (HKRBC).
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a) Apply mathematical and statistical knowledge to solve practical problems encountered in the actuarial workplace. b) Demonstrate an understanding on the latest standards and regulations of the insurance industry in Hong Kong. c) Comprehend and apply the concepts and standards of the international financial reporting relevant to actuarial science. d) Exhibit professional integrity and ethical behaviour in the various disciplines associated with actuarial science. e) Cultivate a commitment to lifelong learning for continuous industry advancement in the field of actuarial science.

Subject Synopsis/ Indicative Syllabus	The course covers the following major topics, with some additional topics and case-studies: **Hong Kong Insurance Regulation** Discussion of the regulatory Guidelines like below with illustrations of their applications and impacts in insurance company. - GL16 - Guideline on Underwriting Long Term Insurance Business (other than Class C Business) - GL17 - Guideline on Reinsurance - GL19 - Guideline on Qualifying Deferred Annuity Policy - GL21 - Guideline on Enterprise Risk Management: - GL28 - Guideline on Benefit Illustrations for Long Term Insurance Policies - Code of Practice for Insurance Companies under the Ambit of the Voluntary Health Insurance Scheme **Hong Kong Risk Based Capital (HKRBC)** Illustration of technical concept for calculation of HKRBC insurance liabilities, capital requirement and capital resources under the concept of Pillar 1 and Pillar 3 on disclosure requirements. **Risk Governance** Illustration for Pillar 2's concept regarding Enterprise Risk Management particularly on Enterprise Risk Management and Own Risk Solvency Assessment (ORSA). **International Financial Reporting Standard 17 (IFRS 17)** Illustration for the basic concept of IFRS 17 under different models like General Measurement Model (GMM), Premium Allocation Approach (PAA) and Variable Fee Approach (VFA). **Application of Actuarial Practice** Practical illustration of actuarial practice in the workplace like Product Pricing, Valuation, Financial Reporting and Experience analysis.
Teaching/Learning Methodology	The subject will be delivered mainly through lectures. The teaching and learning approach mainly focus on the latest actuarial practice. The approach aims at the development of concept on how to apply actuarial concept and framework into the daily practical problems in actuarial profession. Students are encouraged to adopt a deep study approach by employing high level cognitive strategies, such as critical and evaluative thinking, relating, integrating and applying theories to practice.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
		a	b	c	d	e
Mid-term Test	40%	✓	✓	✓		
Final Presentation (Individual)	60%		✓	✓	✓	✓

- The mid-term test contains a set of questions based on the knowledge covered in the course. It assesses students' understanding of concepts, practical techniques and problem-solving skills in actuarial science and related disciplines such as insurance and finance.
- The final presentation requires students to present some case study problems that illustrates their understanding of the concepts and application of the course knowledge.

Student Study Effort Required

Class contact:	
▪ Lecture	39 Hrs.
Other student study effort:	
▪ Readings and exercises	20 Hrs.
▪ Final Presentation Preparation	20 Hrs.
▪ Self-study	30 Hrs.
Total student study effort	109 Hrs.

Reading List and References

GL16 - Guideline on Underwriting Long Term Insurance Business (other than Class C Business)	The Insurance Authority
GL17 - Guideline on Reinsurance	The Insurance Authority
GL19 - Guideline on Qualifying Deferred Annuity Policy	The Insurance Authority
GL21 - Guideline on Enterprise Risk Management:	The Insurance Authority
GL28 - Guideline on Benefit Illustrations for Long Term Insurance Policies	The Insurance Authority
Prescribed Scenarios for the Stress and Scenario Testing for Own Risk Solvency Assessment Report	The Insurance Authority
Code of Practice for Insurance Companies under the Ambit of the Voluntary Health Insurance Scheme	Health Bureau
Hong Kong RBC – Second Quantitative Impact Study (QIS 2)	Milliman, Inc
Hong Kong RBC – Third Quantitative Impact Study (QIS 3)	Milliman, Inc
IFRS 17 Insurance Contracts Standard	The International Accounting Standards Board