Subject Description Form

<table>
<tr><td>Subject Code</td><td>AMA353</td></tr>
<tr><td>Subject Title</td><td>Life Contingencies I</td></tr>
<tr><td>Credit Value</td><td>3</td></tr>
<tr><td>Level</td><td>3</td></tr>
<tr><td>Pre-requisite/
Co-requisite/
Exclusion</td><td>Pre-requisites: Theory of Interest (AMA253) and
Probability & Distributions (AMA269 or AMA2691)</td></tr>
<tr><td>Objectives</td><td>To introduce students to a wide range of concepts and terminology in insurance and provide students with basic skills of calculating various insurance-related items.</td></tr>
<tr><td>Intended Learning Outcomes</td><td>Upon satisfactory completion of the subject, students should be able to:
1. master the fundamental concept of measuring death and survival through the use of force of mortality, the basis and characteristics of life table;
2. command the idea and practical meaning of the actuarial present value;
3. apply actuarial models to evaluate premiums for term and life insurances;
4. conduct graduation and life table demography within the context of socially acceptable professional and ethical practices;
5. recognize the ethical and social responsibility of a life table construction professional.</td></tr>
<tr><td>Subject Synopsis/
Indicative Syllabus</td><td>Survival distributions and life tables
Age-at-death random variable, survival function, force of mortality, life tables, analytical laws of mortality.
Life insurance and life annuities
Insurances payable at the moment of death and at the end of the year of death, continuous and discrete life annuities.
Benefit premiums
Fully continuous and discrete premiums, m-thly payment premiums.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>Learning outcomes 1, 2, and 3 and 5 will be achieved through lectures, tutorials and interaction between the lecturers and students, while 4 will be assessed through in-class exercises, assignments and discussions. Tests and final examination are set to assess the learning outcomes 1, 2, 3 and 4.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods</td><td rowspan="2">% weighting</td><td colspan="5">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>a. Assignments</td><td>20%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>b. Tests</td><td>20%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>c. Examination</td><td>60%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Total</td><td>100 %</td><td colspan="5"></td></tr>
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	The learning outcomes will be assessed by a combination of in-class exercises, assignments, mid-term tests and final examination. To pass this subject, students are required to obtain Grade D or above in **both** the Continuous Assessment and the Examination components.	
Student Study Effort Required	Class contact:	
	▪ Lecture	28 Hrs.
	▪ Tutorial	14 Hrs.
	Other student study effort:	
	▪ Assignment	20 Hrs.
	▪ Self-study	60 Hrs.
	Total student study effort	122 Hrs.

Reading List and References

Textbook:

Bowers, N.L., Gerber, H.U., Hickman, J.C., Jones, D.A., and Nesbitt, C.J.	Actuarial Mathematics, 2nd edition	Society of Actuaries, 1997

References:

Jordan, C.W.	Life Contingencies	Society of Actuaries, 1967
Klein, J.P. and Moeschberger, M.L.	Survival Analysis	Springer-Verlag, 1997