UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS EDUCATION
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Bachelor of Science in Mathematics **MODULE HANDBOOK**

Module name:	Actuarial Mathematics
Module level,if applicable:	Undergraduate
Code:	MAT6353
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	7^{th}
Module coordinator:	Rosita Kusumawati, M.Sc.
Lecturer(s):	1. Rosita Kusumawati, M.Sc. 2. Syarifah Inayati, S.Pd., M.Sc.
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective Course
Teaching format / class hours perweek during the semester:	150 minutes lectures and 180 minutes structured activities per week.
Workload:	Total workload is 136 hours per semester which consists of 150 minutes lectures, 180 minutes structured activities, and 180 minutes self-study per week for 16 weeks.
Creditpoints:	3
Prerequisites course(s):	Probability Theory (MAT6315)
Course outcomes:	After taking this course the students have ability to: CO1. Demonstrate collaborative attitude and independence in carrying out individual tasks and group assignments CO2. Communicate ideas in solving mathematical problems in writing or verbally

<table>
<tr><td></td><td>CO3. Understand the basic concept of interest theory and life insurance.
CO4. Understand the concept of net premium value equation to solve the applied problem related to life insurance.
CO5. Applying the basic concept of interest theory and life insurance to analyse the application of life insurance.</td></tr>
<tr><td>Content:</td><td>This course contains discussion on discrete modelling for mortality tables, life annuities, life insurance, retrospective and prospective premium reserves, and redemption value.</td></tr>
<tr><td>Study/exam achievements:</td><td>CO1: Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude.

The final mark will be weight as follow:

<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO1</td><td>Presentation</td><td>Observation</td><td>10%</td></tr>
<tr><td>2</td><td>CO1
CO2
CO3
CO4
CO5
CO6</td><td>a. Individual Assignment
b. Group Assignment
c. Quiz
d. Mid
e. Final exam</td><td>Written test</td><td>10%
10%
15%
25%
30%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, Laptop/Computer</td></tr>
<tr><td>Literature:</td><td>1. RK. Sembiring. 1986. Asuransi I. Edisi Pertama. Jakarta: Karunika, Universitas Terbuka.
2. Stephen G. Kellison. 2009. The Theory of Interest. Third Edition. Mc Graw Hill.
3. Jordan, Jr, C.W., 1952, Life contingencies, The Society of</td></tr>
</table>

	Actuaries 4. Promislow, S. David. 2006. Fundamentals of Actuarial Mathematics. England. John Wiley & Sons Ltd.

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1	✓									
CO2		✓								
CO3					✓					
CO4							✓			
CO5									✓	