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Faculty of Mathematics and Natural Sciences
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Graduate Program in Mathematics

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MODULE HANDBOOK
Master in Mathematics

Module name:	Actuarial Mathematics (Matematika Aktuaria)
Module level, if applicable:	Master Program
Code, if applicable:	MMM-5502
Semester(s) in which the module is taught:	First Year
Person responsible for the module:	Chair of Statistical Research Group
Lecturer(s):	Dr. Adhitya Ronnie Effendie, M.Sc
Language:	Bahasa Indonesia
Relation to curriculum:	Master Degree in Mathematics, Elective, 2nd semester
Credit points:	3 Semester Credit Unit
Type of teaching, contact hours:	3x50 minutes lectures, 3x50 minutes structured activities.
Workload:	3x50 minutes lectures, 3x50 minutes structured activities, 3x50 minutes individual study, - In 16 weeks per semester (including mid-term and final examinations). - Total: 144x50 minutes per semester.
Requirements according to the examination regulations:	none
Recommended prerequisites:	Before taking this course, the students must have a good understanding in financial mathematics such as interest theory and annuities.
Module objectives/intended learning outcomes:	On satisfying the requirements of this course, students will have the knowledge and skills to: - CO-1: Students will comprehend concept of survival models - CO-2: Students will understand main concepts associated with of life insurance and life annuities - CO-3: Students will understand key concepts of benefit premium
Content:	This course focuses on stochastic modeling of life insurance. Students may learn about the workings of life insurance businesses during the course. To comprehend the computation and determination of such actuarial numbers as premium and benefit reserves, a number of technical and actuarial processes are provided.
Study and examination requirements and forms of examination:	The final mark will be weighted as follows: <table><tr><td>No</td><td>Assessment methods (components, activities)</td><td>Weight (percentage)</td></tr><tr><td>1</td><td>Formulation the originality of research problem</td><td>25%</td></tr><tr><td>2</td><td>Formulation the theoritical framework</td><td>25%</td></tr><tr><td>3</td><td>Formulation the conjecture and metodhology</td><td>20%</td></tr><tr><td>4</td><td>Presentation</td><td>30%</td></tr></table>
Media employed:	Board, LCD Projector, Laptop/Computer
Reading List:	The related references to the dissertation will be nominated as per the selected topic and content. General references: - Bower, et.al (1999) Actuarial Mathematics, Society of Actuaries, Schaumburg, Illinois - www.aktuaris.org - www.soa.org

Mapping of The COs and PLOs

	PLO – 1 S2 Mat	PLO – 2 S2 Mat	PLO – 3 S2 Mat	PLO – 4 S2 Mat	PLO – 5 S2 Mat	PLO –6 S2 Mat
CO 1	√	√	√		√	√
CO 2	√	√	√		√	√
CO 3	√	√	√		√	√