Bachelor of Science in Mathematics   **MODULE HANDBOOK**

Module name:	Advanced Actuarial
Module level,if applicable:	Bachelor
Code:	MAT2.62.5006
Sub-heading,if applicable:	-
Classes,if applicable:	Advanced Actuarial
Semester:	5th (fifth)
Module coordinator:	Head of Actuarial Expertise Group
Lecturer(s):	Dr. Devni Prima Sari, M.Sc, and Dr. Suherman, S.Pd., M.Si.
Language:	Indonesian Language and English
Classification within the curriculum:	Elective Course in third year (5th semester) Bachelor Degree
Teaching format / class hours per week during the semester:	a. Lectures: by problem-based learning with methods such as expository, presentations, group, and class discussion. (3 x 50 minutes = 150 minutes) b. Structured assignment: Weekly individual written assignment. (3 x 60 minutes = 180 minutes) c. Individual study. (3 x 60 minutes = 180 minutes)
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.
Credit points:	3 sks = 4,53 ECTS
Prerequisites course(s):	Actuarial Mathematics and Probability Theory
Course outcomes:	After taking this course the students have ability to: ● CO1. Explaining Multiple Life Model (Joint Distribution, Joint Life Status, Last Survivor Status, and Dependent Lifetime Model). ● CO2. Determining Multiple Decrement Model (Random Survivor-ship Group and Associated Single Decrement Tables). ● CO3. Applying the theory of Multiple Decrement

Content:	This course begins with material that discusses Multiple Decrement (Joint Distribution, Joint Life Statu, Last Survivor Statu, and Dependent Lifetime Model), Multiple Decrement Models (Random Survivorship Group and Associated Single Decrement Tables) and Application of Multiple Decrement Theory.
Study/exam achievements:	The final mark will be weighted as follows: The assessment consists of the final exam (30 %), mid-term exam (30%), assignment (20 %), and presentation (20%). Final and mid-term exams are in the form of an open book essay written test (120 minutes). Weekly assignments (solving selected problems) are given in two forms; group or individual assignments. Presentation is based on problems in finance and focused on the solution of the problem.
Forms of media:	Whiteboard, Smartboard, Laptop, and LCD.
Literature:	1. Bowers. N.L., Gerber. H., Nesbitt. C.J. (1997). Actuarial Mathematics, 2nd Ed. Illinois: The Society of Actuaries. Gerber. H.U. (1997). Life Insurance Mathematics, 3rd Ed. 2. Zurich: Springer. Fuyami. T. (1993). Matematika Asuransi Jiwa, Bagian 2. 3. Tokyo: Incorporated Foundation. Corazza. M, Legros. F, Perna. C, Sibillo. M. (2017). 4. Mathematical and Statistical Methods for Actuarial Sciences and Finance. Springer.

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1			√							
CO2			√							
CO3					√				√	