



UNIVERSITAS GADJAH MADA
Faculty of Mathematics and Natural Sciences
Department of Mathematics

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Graduate Program in Mathematics

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MODULE HANDBOOK

Module Name	Pembentukan Tabel Mortalitas (<i>Mortality Table Construction</i>)
Module level, if applicable	Master Program
Code, if applicable	MMM-5505
Subtitle, if applicable	-
Courses, if applicable	Pembentukan Tabel Mortalitas (<i>Mortality Table Construction</i>)
Semester(s) in which the module is taught	second or fourth semester
Person responsible for the module	Chair of Statistics Laboratory
Lecturer(s)	Drs. Danardono, MPH, Ph.D.
Language	Bahasa Indonesia
Relation to curriculum	Elective <i>for</i> Master Degree in Mathematics
Teaching methods	3 hours lecture
Workload (incl. contact hours, self-study hours)	3 hours lectures, 6 hours individual study, 14 weeks per semester, and a total of 126 hours a semester
Credit points	3
Required and recommended prerequisites for joining the module	Competencies in undergraduate Calculus and mathematical statistics
Module objectives/intended learning outcomes	On successful completion of this course, students should be able to: CO1 explain the concept of survival data, hazard function, survival function, mortality models, and mortality tables; CO2 construct mortality models or mortality tables from empirical data CO3 appraise advanced models and their construction methods for specific actuarial problems

Content	Survival data; mortality models; mortality table construction for complete and incomplete data using parametric and non-parametric methods. Advanced topics for mortality model construction or other advanced models for specific actuarial problems.
Examination forms	<i>essay, project report and presentations</i>
Study and examination requirements	The weight of assignments will be as follows: <ul style="list-style-type: none"> 1. Final examination 30% 2. Mid examination 30% 3. Project 25% 4. Quiz, homework, presentation 15%
Media employed	<i>LCD projectors, whiteboards, online platforms, LMS (learning management system) - eLOK</i>
Reading list	<ol style="list-style-type: none"> 1. Danardono, 2014, Pembentukan Tabel Mortalita. Diktat S2 Matematika FMIPA UGM 2. London, D. , 1997, Survival Models and Their Estimation (Third Edition), Chapter 1-11 and appendix. ACTEX Publication 3. Klugman, S.A., Panjer, H.H. and Willmot, G.E., 2004, Loss Models: From Data to Decisions, (Second Edition), Chapter 1, Section 1.1 only, Chapters 9–11, Chapter 12 (excluding 12.5.4, 12.5.5 and 12.6), and Chapter 13. John Wiley and Sons, Inc. 4. Batten, R. W., 1978, Mortality Table Construction, Chapter 1-7. Prentice-Hall

CO-PLO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
CO 1			X				
CO 2			X				
CO 3					X		

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