



UNIVERSITAS GADJAH MADA
 Faculty of Mathematics and Natural Sciences
 Mathematics Department

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Undergraduate Program in Statistics

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MODULE HANDBOOK

Module name	Analisis Data Survival (Survival Data Analysis)
Module level, if applicable	Bachelor
Code, if applicable	MMS-3443
Subtitle, if applicable	-
Courses, if applicable	Analisis Data Survival (Survival Data Analysis)
Semester(s) in which the module is taught	6/third year
Person responsible for the module	Drs. Danardono, MPH., Ph.D.
Lecture(s)	Drs. Danardono, MPH., Ph.D., Rianti Siswi Utami, S.Si., M.Sc.
Language	Bahasa Indonesia
Classification within the Curriculum	Compulsory course / Elective Studies
Teaching format /class hours per week during the semester:	2 hours lecture, 2 hours laboratory session
Workload	<ul style="list-style-type: none"> - 2 hours lecture+ 4 hours individual study, 14 weeks lecture per semester, - 2 hours laboratory session + 2 hours individual study, 10 weeks laboratory session per semester, - total 124 hours a semester.
Credit points	3
Requirements	MMS-1409 Metode Statistika II (Statistical Methods II)
Module objectives/intended learning outcomes	<p>By the end of this course, students are expected to be able to:</p> <p>CO 1. explain survival data, hazard function and survival function, parametric regressions, and Cox regression.</p> <p>CO 2. show parameter inference for survival data, both for complete and incomplete data (censored, truncated);</p> <p>CO 3. analyze hazard function and survival function using parametric and nonparametric methods;</p> <p>CO 4. analyze parametric and Cox regression for survival data;</p> <p>CO 5. apply the methods in survival analysis for real problems using statistical software (Excel, Minitab, SPSS, R).</p>
Content	Survival data (duration data, time-to-event data), type of survival data: censored and truncated sample, survival distribution model, parametric inference for survival data, Kaplan-Meier, Life-Table, Nelson-Aalen, parametric regression and Cox regression for survival data.
Study and examination requirements and forms of examination	<p>The weight of assignments will be as follows:</p> <ol style="list-style-type: none"> i. Quiz, homework, 30% Presentation,

	<p>Laboratory session</p> <p>ii. Mid semester exam 30%</p> <p>iii. Final exam 40%</p> <p>Grade scale: A: $85 < \text{score} \leq 100$ A-: $80 < \text{score} \leq 85$ A/B: $75 < \text{score} \leq 80$ B+: $70 < \text{score} \leq 75$ B: $65 < \text{score} \leq 70$ B-: $60 < \text{score} \leq 65$ B/C: $55 < \text{score} \leq 60$ C+: $50 < \text{score} \leq 55$ C: $45 < \text{score} \leq 50$ C-: $40 < \text{score} \leq 45$ C/D: $35 < \text{score} \leq 40$ D+: $30 < \text{score} \leq 35$ D: $20 < \text{score} \leq 30$ E: $0 \leq \text{score} \leq 20$</p>
Media employed	Slides and LCD projectors, whiteboards
Reading List	<ol style="list-style-type: none"> 3. Danardono. 2011. Diktat Analisis Data Survival. Jurusan Matematika, FMIPA UGM. Yogyakarta. 4. Lawless, J. F. 2003. Statistical Models and Methods for Lifetime Data. John Wiley and Sons. New York. 5. Lee, E. T. and Wang, J. W. 2003. Statistical Methods for Survival Data Analysis, 3rd Ed. John Wiley and Sons. New York.

CO and 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						
CO 4		x					
CO 5			x				