



# UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Department of Mathematics

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## Master in Mathematics

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## MODULE HANDBOOK

Module Name	Statistika Matematika II (Mathematics Statistics II)
Module level, if applicable	Master
Code, if applicable	MMM-5402
Subtitle, if applicable	-
Courses, if applicable	-
Semester(s) in which the module is taught	2 <sup>nd</sup> Semester
Person responsible for the module	Chief of Statistics Laboratory
Lecturer(s)	Dr. Abdurakhman, S.Si, M.Si
Language	Bahasa Indonesia
Relation to curriculum	Compulsory course
Teaching methods	3 hours lecture
Workload (incl. contact hours, self-study hours)	3 hours lectures, 6 hours individual study, 14 weeks per semester, and total 84 hours a semester
Credit points	3
Required and recommended prerequisites for joining the module	SM I

Module objectives/intended learning outcomes	By the end of this course : <ol style="list-style-type: none"> <li>CO 1. Have a good understanding in the concept of the sampling distribution, sufficient statistics, ancillary, and completeness.</li> <li>CO2. Have the ability to estimate parameters to evaluate the goodness of an estimator.</li> <li>CO3. Have the ability to do hypothesis testing and apply to real data.</li> </ol>
Content	Contents of this lecture consist of : Joint distribution, Likelihood function. Methods of parameter Estimation: Moment Method Estimation and Maximum Likelihood Estimation Statistic and sampling distributions, Sufficient statistics, Exponential family, Point estimation and its evaluation, Hypothesis testing, Application to real data The level of this lecture is from knowledge until application however the weighting of this lecture is more knowledge
Examination forms	Oral presentation, essay
Study and examination requirements	The weight of assignments will be as follows: <ol style="list-style-type: none"> <li>Quiz, homework 10%</li> <li>Group discussion 15%</li> <li>Mid semester exam 35%</li> <li>Final exam 40%</li> </ol> Grade scale: A 85 ≤ score A/B 75 ≤ score < 85 B 60 ≤ score < 75 B/C 50 ≤ score < 60 C 40 ≤ score < 50 D 20 ≤ score < 40 E score < 20
Media employed	Slides and LCD projectors, blackboards
Reading list	<ol style="list-style-type: none"> <li>Bain, L.J. and Engelhardt, (1992), Introduction to Probability and Mathematical Statistics, Duxbury Press</li> <li>Hogg, R.V., Kean, J.W., Craig, A.T. (2005). Introduction to Mathematical Statistics. Pearson Prentice Hall.</li> <li>Larsen, R.J., Marx, M.L. (2006). An Introduction to Mathematical Statistics and Its Applications. Pearson Prentice Hall</li> </ol>

### 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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