



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	Komputasi Statistika Terapan 1 (Applied Statistical Computing 1)
Module level, if applicable	Master Program
Code, if applicable	MMS- 5610
Subtitle, if applicable	-
Courses, if applicable	-
Semester(s) in which the module is taught	1/first year
Person responsible for the module	Chair of Statistics Laboratory
Lecturer(s)	Prof., Dr.rer.nat., Dedi Rosadi, S.Si., M.Sc.
Language	Bahasa Indonesia
Relation to curriculum	Elective for 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 total 126 hours per semester
Credit points	3
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	On successful completion of this course, <ul style="list-style-type: none">• CO Students should understand the concept and various methodology used for statistical computing and its application• CO2 Students can use open-source software R for statistical computing and its application• CO3 Students can analyze the output from open-source software for statistical computing and its application

Content	Introduction to Statistical Computing and Computational Statistics; Introduction to R and Programming using R, Some Statistical computation topics: Numerical methods for moment estimator and maximum likelihood, Random number generation, Monte carlo simulation, Numerical methods (Newton Raphson methods), numerical optimization, Symbolic computation, Machine Learning using, Introduction to Data Science, other topics
Examination forms	Written exams and final project
Study and examination requirements	The weight of assignments will be as follows: 1. Quiz, home work, presentation 20% 2. Mid semester exam 40% 3. Final exam 40%
Media employed	online platform, Learning management system, LCD projectors, whiteboards.
Reading list	Rosadi, D., 2017, Analisa Statistika Terapan dengan R, GamaPress Braun.D., 2008, A First Course in Statistical Programming with R, Cambridge University Press Rosadi, D., 2011, Analisa Ekonometrika dan Runtun Waktu Terapan dengan R, Andi Ofset, Yogyakarta

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				

Compilation Date : 8/9/2022

Modified Date : 8/9/2022