



Universitas Brawijaya
Faculty of Mathematics and Natural Sciences
Department of Statistics / Bachelor Statistics Study Programme

Module Handbook

Module Name:	Capita Selecta of Computational Statistics (MAS61138)	
Module Level:	Bachelor	
Abbreviation, if applicable:	-	
Sub-heading, if applicable:	-	
Courses included in the module, if applicable:	-	
Semester/term:	7th / Fourth Year	
Module Coordinator(s):	Dr. Eni Sumarminingsih, S.Si, M.M	
Lecturer(s):	Dr. Eni Sumarminingsih, S.Si, M.M	
Language:	Indonesian	
Classification within the curriculum:	Elective Course	
Teaching format / class per week during semester:	2 × 50 minutes	
Workload:	1.67 hours lectures, 2 hours structural activities, 2 hours individual studies, 16 weeks per semester, and total 90.67 hours per semester 3 ECTS	
Credit Points:	2	
Requirements:	Introduction to Probability Theory (MAS62111)	
Learning goals / competencies:	General Competence (Knowledge):	
	ILO3	The students are able to manage, analyze, and complete the real case using statistical method on computing, social humanities, economics, industry and life science that helped by software, then present and communicate the results.
	ILO4	The students are able to master at least two statistical softwares, including based on open source.
	ILO5	The students are able to apply logical, critical, systematic, and innovative thinking independently when applied to science and technology that contain humanities values, based on scientific principles, procedures and ethics with excellent and measurable results.
	ILO6	The students are able to take appropriate decisions to solve the problems expertly, based on the information and data analysis.
	ILO7	The students are able to improve and develop a job networks, then supervise and evaluate the team's

		performance they lead.
	ILO8	The students are able to apply and internalize the spirit of independence, struggle, entrepreneurship, based on values, norms, and academic ethics of Pancasila in all aspects of life.
	Specific Competence:	
	M1	Students understand the statistics research methodology and various new statistical methods, and understand how to apply it in various field. (ILO3, ILO4, ILO5, ILO6, ILO7, ILO8)
	M2	Students are able to apply the basic of statistics in computation. (ILO3, ILO4, ILO5, ILO6, ILO7, ILO8)
	M3	Students are able to use ICT as a supporter of statistics. (ILO3, ILO4, ILO5, ILO6, ILO7, ILO8)
	M4	Students are able to communicate the concepts of statistics. (ILO3, ILO4, ILO5, ILO6, ILO7, ILO8)
	M5	Students are able to collect, manage, analyze, and interpret the data using the concepts of statistics.
Contents:	1	Review of data exploration
	2	Review of data visualization
	3	Review of programming in statistics
	4	Review of simulation in statistics
	5	Review of optimization in statistics
	6	Computation new topic for prediction
	7	Computation new topic for classification
Soft skill attribute:	Responsible, independently, and discipline	
Study/exam achievement:	Final score (NA) is calculated as follow: 35% Assignments, 30% Midterm Exam, 30% Final Exam, 5% Attitude Final index is defined as follow: A : > 80 - 100 B+ : > 75 - 80 B : > 69 - 75 C+ : > 60 - 69 C : > 55 - 60 D+ : > 50 - 55 D : > 44 - 50 E : 0 - 44	
Forms of media:	R, LCD and Laptop	
Learning methods:	Lecture, assessment, and group discussion	
Literature:	Main:	
	1. Journals of Computational Statistics	

	Support:
Notes:	