Module name		Nonparametric Statistics			
Module level, if applicable		Master's degree in 2nd year			
Code, if applicable		MST-512			
Semester(s) in which the module is taught		3rd (third)			
Person responsible for the module		Rohmatul Fajriyah, Dr. techn.			
Lecturer		Akhmad Fauzy, Prof. Ph.D Rohmatul Fajriyah, Dr. techn.			
Language		Bahasa Indonesia			
Relation to curriculum		Compulsory course in the first year (1st semester) Master Degree			
Types of teaching and learning	Class size	Attendance time (hours per week per semester)	Form of active participation	Workload (hours per semester)	
Interactive Lecturing	< 20	2.5	Problem solving	Face to face teaching	35
				Structured activities	48
				Independent study	48
				Exam	5
Total Workload		136 hours			
Credit points		3 CUs / 5.1 ECTS			
Requirements according to the examination regulations		Minimum attendance at lectures is 75%. Final score is evaluated based on quiz, assignment, mid-term exam, and final exam.			
Recommended prerequisites		-			
Related course		Theory and Applied Statistics			
Module objectives/intended learning outcomes		After completing this course, the students have ability to: CO 1. integrate the concepts and implementation of Nonparametrics statistical methods to solve statistical problems and their applications CO 2. identify, formulate and analyze statistical problems and their application to existing data. CO 3. create program in R/Python programming language for nonparametrics statistics analysis, simulation and its visualization			
Content		1. Bootstrap and Jack-knife 2. Wavelet 3. LASSO dan Elastic Net 4. Smoothing or estimating curves 5. Permutation test 6. Rank-based Linear Regression 7. Non-linear regression 8. Nonparametric Regression			

<table>
<tr><td></td><td></td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td>The final mark will be weighted as follows:
<table>
<tr><th>No</th><th>Assessment components</th><th>Assessment types</th><th>Weight (percenta</th></tr>
<tr><td>1</td><td>CO 1</td><td>Assignment, Quiz, Midterm Exam</td><td>40%</td></tr>
<tr><td>2</td><td>CO 2</td><td>Assignment, Quiz, Final Exam</td><td>20%</td></tr>
<tr><td>3</td><td>CO 3</td><td>Assignment, Quiz, Final Exam</td><td>40%</td></tr>
</table></td></tr>
<tr><td>Media employed</td><td>Google Classroom, relevant websites, slides (power points), video, interactive media, white-board, laptop, LCD projector</td></tr>
<tr><td>Reading list</td><td>
1. Jeffrey Racine, Liangjun Su and Aman Ullah, 2014, The Oxford Handbook of Applied Nonparametric and Semiparametrics Econometrics and Statistics, Oxford University Press
2. Gregory W. Corder and Dale I Foreman, 2014, Nonparametric Statistics: A Step by Step Approach, Wiley
3. Victor Patrangenaru and Leif Ellingson, 2015, Nonparametric Statistics on Manifolds and Their Applications to Object Data Analysis, CRC Press
4. Jayant V. Deshpande, Uttara Naik-Nimbalkar and Isha Dewan, 2017, Nonparametric Statistics: Theory and Methods, World Scientific Publishing Co
5. Kolassa, John Edward, 2020, An Introduction to Nonparametric Statistics , CRC Press
6. Odile Pons, 2013, Statistical Tests of Nonparametric Hypotheses: Asypmtotic Theory, World Scientific Publishing Co
7. Rajesh Kumar Arora. 2015. Optimization: Algorithms and Applications. CRC Press (Taylor and Francis Group).
8. Steffen Lauriotzen, 2023, Fundamentals of Mathematical Statistics, Chapman and Hall
9. Fajriyah, R, 2024, Seri Komputasi R; Statistika Nonparametrik Elementer, UII, Yogyakarta
10. Larry Wasserman, 2006, All of Nonparametric Statistics, Springer, New York
11. Peter Sprent, 2011, Applied Nonparametric Statistical Methods, CRC Press, Florida
12. AC Davison, and DV Hinkley, 1997, Bootstrap Methods and their Application, Cambridge University Press, USA
13. Silvelyn Zwanzig and Behrang Mahjani, 2020, Computer Intensive Methods in Statistics, CRC Press, Florida
14. Geof H Givens and Jennifer A. Hoeting, 2013, Computational Statistics, John Wiley, New Jersey
</td></tr>
</table>

15. Klaus Nordhausen and Sara Taskinen, 2015, Modern Nonparametric, Robust and Multivariate Methods, Springer , Switzerland

Date :	Date :	Date : Sept 5, 2024
Authorized by Head of Study Program:	Examined by Coordinator of Cluster Interest	Prepared by Lecturer/Coordinator of Lecturers:
Rohmatul Fajriyah	**Akhmad Fauzy, Prof. Ph.D**	**Rohmatul Fajriyah**