UNIVERSITAS NEGERI PADANG
FACULTY OF MATHEMATICS AND NATURAL SCIENCES MATHEMATICS
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Bachelor of Science in Mathematics   **MODULE HANDBOOK**

Module name:	Time Series Analysis
Module level,if applicable:	Bachelor
Code:	MAT2.62.7004
Subheading,if applicable:	-
Classes,if applicable:	Time Series Analysis
Semester:	7th (seventh)
Module coordinator:	Head of Statistics Expertise Group
Lecturer(s):	Dr. Doni Permana, M.Si. and Dra. Helma, M.Si.
Language:	Indonesian Language and English
Classification within the curriculum:	Elective course in the fourth year (7th semester) Bachelor Degree
Teaching format / class hoursperweekduring the semester:	a. Lectures: Project Based Learning with methods such as expository, discussion, and presentation (3 x 50 minutes = 150 minutes). b. Structured assignment: Project task (3 x 60 minutes = 180 minutes). c. Individual study (3 x 60 minutes = 180 minutes).
Workload:	150 minutes lectures, 180 minutes structured activities, 180 minutes individual study, 16 weeks per semester (including mid term), 136 hours per semester.
Creditpoints:	3 SKS = 4,53 ECTS
Prerequisites course(s):	-
Course outcomes:	After taking this course the students have ability to: CO1. form the forecasting model of time series from the given problem. CO2. examine the suitability of forecasting model obtained with the data CO3. transform of data if the forecasting model that does not describe the data provided

		CO4. construct the best forecasting model of time series from a given problem
Content:		1. Forecasting 2. Basic concept of quantitative forecasting 3. Average method 4. Exponential smoothing 5. Another smoothing methods 6. Basic conceptof time series 7. Box-Jenkins methods
Study/examachievements:		The final grade will be weighted as follows: The assessment consists of a final project (40%), a midterm exam (30%), assignment (20%) and class activities: participation, attitude, and presence (10 %). Students are separated into groups and discussed about the characteristics of data timeseries, how to analyze, and using the appropriate models. The final project: students do study case related to the data time series and find the appropriate model. A midterm test is taken to examine whether students understand the theory covered in the half-semester course.
Forms of media:		White Board, laptop, Projector, e-learning via elearning2.unp.ac.id, and zoom meeting.
Literature:		**Main :** Makridarkis, S., Wheelwright, S. C., and McGee, V. E. 1983. *Forecasting Methods and Applications*. Wiley: New York **Suporters :** 1. Cryer, J. D., and Chan, K. S., 2008. *Time Series Analysis with Application in R*. Springer:New York 2. Box, G. E. P., Jenkins, G. M., and Reinsel, G. C., 2008. *Time Series Analaysis, Forecasting, and Control 4th Ed.* John Wiley & Sons: New York

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CO1			✓							✓		
CO2												
CO3					✓							
CO4									✓			