

UNIVERSITAS NEGERI PADANG FACULTY OF MATHEMATICS AND NATURAL SCIENCES MATHEMATICS DEPARTMENT, MATHEMATICS STUDY PROGRAM Main Campus Universitas Negeri Padang. Jalan Prof. Dr. Hamka Air Tawar Padang, Sumatera Barat Telepon: +62 751 7053902, Fax: +62 751 7055628 Email: humas@unp.ac.id

## **Bachelor of Mathematics**

## MODULE HANDBOOK

Module name:	Mathematical Statistics						
Module level, if applicable:	Bachelor						
Code:	MAT1.62.5003						
Sub-heading, if applicable:	-						
Classes, if applicable:	Mathematical Statistics						
Semester:	5 <sup>th</sup> (fifth)						
Module coordinator:	Head of Statistics Expertise Group						
Lecturer(s):	Dr. Suherman, M.Pd., Dra. Helma, M.Si, and Dra. Dewi Murni, M.Si.						
Language:	Indonesian Language and English						
Classification within the curriculum:	Compulsory course in the third year (5 <sup>th</sup> semester) Bachelor Degree						
Teaching format / class hoursperweekduring the semester:	<ul> <li>a. Lectures : Cooperative learning with methods such as expository, drill, and discussion. (4 x 50 minutes = 200 minutes)</li> <li>b. Structured assignment : Weekly individual written assignment. (4 x 60 minutes = 240 minutes).</li> <li>c. Individual study. (4 x 60 minutes = 240 minutes).</li> </ul>						
Workload:	Total workload is 181,33 hours per semester, which consists of 200 minutes lectures, 240 minutes structured activities, and 180 minutes of self-study per semester, including mid exam and final exam.						
Creditpoints:	4  SKS = 6.04  ECTS						
Prerequisites course(s):	Probability theory and advanced calculus						
Course outcomes:	After taking this course the students have ability to:						
	<ul> <li>CO1. Predict the type of distribution from the data provided</li> <li>CO2. Analyze unbiased, efficiency, consistency, and sufficiency of an estimator using moments, maximum likelihood, and bayesian estimation methods</li> <li>CO3 Interpret the results of hypothesis testing</li> </ul>						

Content:	<ol> <li>Special distribution function</li> <li>Transformation of random variable</li> <li>sampling distribution</li> <li>Theory of Parameter Estimation</li> <li>Theory of hypothesis testing</li> </ol>
Study / exam achievements:	The final grade will be weighted as follows: The assessment consists of a final exam (35 %), a midterm exam (35%), individual reports (20 %), and class activities: participation, attitude, and presence (10%). The final and midterm exams are essay tests with a closed book (120 minutes).
	Individual reports are completed in class through exercises.
Forms of media:	White Board, laptop, Projector, e-learning via elearning2.unp.ac.id, and zoom meeting.
Literature:	<ul> <li>Main: <ol> <li>Hogg, R. V., McKean, J. W., and Craig, A. T. 2019. <i>Introduction to Mathematical Statistics</i>, Eighth Edition. Pearson: USA.</li> <li>Bain, L.J and Engelhart, M. Introduction To Probability and Mathematical Statistics, Duxbury Press, 1992.</li> </ol> Recommended: <ol> <li>Freund, J. E., Miller, I., and Miller, M 2014. <i>Mathematical Statistics with Applications</i>, Eighth Edition. Pearson: USA</li> </ol></li></ul>

## PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1						1				
CO2			<b>√</b>							
CO3										1