UNIVERSITAS NEGERI PADANG
FACULTY OF MATHEMATICS AND NATURAL SCIENCES MATHEMATICS
DEPARTMENT, MATHEMATICS STUDY PROGRAM
Main Campus Universitas Negeri Padang.
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Bachelor of Mathematics
MODULE HANDBOOK

| Module name: | Mathematical Statistics |
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| Module level, if applicable: | Bachelor |
| Code: | MAT1.62.5003 |
| Sub-heading, if applicable: | - |
| Classes, if applicable: | Mathematical Statistics |
| Semester: | $5^{\text {th }}$ (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 ( $5^{\text {th }}$ semester) Bachelor Degree |
| Teaching format / class hoursperweekduring the semester: | a. Lectures : Cooperative learning with methods such as expository, drill, and discussion. $(4 \times 50$ minutes $=200$ minutes) <br> b. Structured assignment : Weekly individual written assignment. ( $4 \times 60$ minutes $=240$ minutes $)$. <br> c. Individual study. ( $4 \times 60$ minutes $=240$ minutes $)$. |
| 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: | $4 \mathrm{SKS}=6.04 \mathrm{ECTS}$ |
| Prerequisites course(s): | Probability theory and advanced calculus |
| Course outcomes: | After taking this course the students have ability to: <br> CO1. Predict the type of distribution from the data provided <br> CO2. Analyze unbiased, efficiency, consistency, and sufficiency of an estimator using moments, maximum likelihood, and bayesian estimation methods <br> CO3. Interpret the results of hypothesis testing |


| Content: | 1. Special distribution function <br> 2. Transformation of random variable <br> 3. sampling distribution |
| :--- | :--- |
|  | 4. Theory of Parameter Estimation <br> 5. Theory of hypothesis testing |
| Study / exam achievements: | The final grade will be weighted as follows: <br> The assessment consists of a final exam (35 \%), a midterm <br> exam (35\%), individual reports (20 \%), and class activities: <br> participation, attitude, and presence (10\%). |
| Forms of media: | The final and midterm exams are essay tests with a closed book <br> (120 minutes). <br> Individual reports are completed in class through exercises. |
| Literature:White Board, laptop, Projector, e-learning via <br> elearning2.unp.ac.id, and zoom meeting. |  |
| Main: <br> 1. Hogg, R. V., McKean, J. W., and Craig, A. T. 2019. <br> Introduction to Mathematical Statistics, Eighth Edition. <br> Pearson: USA. |  |
| 2. Bain, L.J and Engelhart, M. Introduction To Probability |  |
| and Mathematical Statistics, Duxbury Press, 1992. |  |

## PLO and CO mapping

|  | PLO1 | PLO2 | PLO3 | PLO4 | PLO5 | PLO6 | PLO7 | PLO8 | PLO9 | PLO10 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CO1 |  |  |  |  |  | $\checkmark$ |  |  |  |  |
| CO2 |  |  | $\checkmark$ |  |  |  |  |  |  |  |
| CO3 |  |  |  |  |  |  |  |  |  | $\checkmark$ |

