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

Module name:	Mathematical Statistics 1
Module level, if applicable:	Bachelor
Code:	MAT1.61.5303
Sub-heading, if applicable:	-
Classes, if applicable:	Mathematical Statistics 1
Semester:	5^{thd}(fifth)
Module coordinator:	Dra. Fitrani Dwina, M.Ed.
Lecturer(s):	Dra. Fitrani Dwina, M.Ed., and Team
Language:	Bahasa Indonesia
Classification within the curriculum:	Study Program Compulsory Course
Teaching format / class hours per week during the semester:	Teaching format: ● Lectures (Face to face activities): expository, problems-based learning, and Class discussion methods ● Structured assignment ● Independent Activities 3 x 170 minutes = 510 minutes = 8.50 hours
Workload:	16 weeks per semester include Midterm Exam and Final exam which consist of: ● 2.50 hours lectures (3 x 50 minutes) per week, ● 3 hours structured assignments (3x 60 minutes) per week, ● 3 hours independent study (3 x 60 minutes) per week 16 x 170 x 3 = 8160 minute = 136 hours = 4.53 ECTS
Credit points:	3 SKS (4.53 ECTS)
Prerequisites course(s):	Calculus, advanced calculus and Elementary Statistics

Course outcomes:	After taking this course the students have ability to: CO1 : Describe the basic concepts of enumeration rules, opportunities, random variables and expected values CO2 : Interpret the basic concepts of enumeration rules, opportunities, random variables and expected values CO 3 : Apply basic concepts of enumeration rules, opportunities, random variables and expected values CO 4 : Analyze problems related to the basic concepts of enumeration rules, opportunities, random variables and expected values CO 5 : Show responsibility attitude towards works by self and by team works.
Content:	This course discusses: 1. Counting rules: principles of multiplication and addition, permutations, and combinations. 2. Combinatorics: Combinatoric theorems, and binomial descriptions 3. Random variables: definition of random variables, types of random variables, probability functions of discrete and continuous random variables, distribution functions of discrete and continuous random variables, probability functions with multivariate random variables, marginal probability functions, and conditional probability functions. 4. Expected value: definition and properties of expected value; moments, Chebyshev's theorem, moment generating functions, moment products, moments of linear combinations of random variables, and conditional expectations.

Study/exam achievements:	Total Score = (30% x Midterm Exam Score) + (30% x Final Exam Score) + (30% x Assignment such as material quiz, homework, etc.) + (10% x Affective Score (Participation/activity, Responsibility, class attendance)) The initial cut - off points for grades A, A-, B+, B, B-, C+, C, C-, and D should not be less than 85, 80, 75, 70, 65, 60, 55, 50, and 40 out of 100 respectively. **Explanation:** **1. Midterm Exam** ✓ Midterm Exam will be conducted in the 9th meeting ✓ Midterm Exam is in the form of a written test (essay) and will be conducted in the classroom ✓ The time allocation is 120 minutes according to the module schedule **2. Final Exam** ✓ Final Exam will be conducted in the 16th meeting. ✓ Final Exam is in the form of a written test (essay) and will be conducted in the classroom. ✓ The time allocation is 120 minutes which follows the Final Exam schedule provided by the Department. **3. Assignment** ✓ Assignments are given as exercise before midterm exam and before final exam ✓ Assignments were about analyzing problem in daily life and solve it with the concept of the content in Mathematical Statistics 1 ✓ Assignments are given as individual task and it is in form Quiz, Homework, etc and it is assessed by rubric assessment ✓ The assignment was carried out to see the achievements of the PLO and CO which are in accordance with the characteristics of Mathematical Statistics 1 module **4. Affective Assesment** ✓ Affective asessment is held in every meeting by observing students' attitude in the classroom. ✓ The assesment is based on the observation sheet by using the given scoring rubrics.
Forms of media:	White-board, Laptop, LCD Projector

Literature:	1. Kartiko, Sri Haryatmi. (2014) Pengantar Statistika Matematika 1.Tanggerang Selatan:Universitas Terbuka 2. Subanar. (2013). Statistika Matematika. Yogyakarta : Graha Ilmu 3. Nar Herrhyanto dan Tuti Gantini. (2013). Pengantar Statistika Matematis. Penerbit : Yrama Widya. 4. Hogg, R.V.& Craig.A.T. (2012). Introduction to Mathematical Statistics 7th Edition. New York: MacMilan Publishing Co. Inc. 5. Walpole, Myers, (2011). Probability & Statistics for Engineers and Scientists, 9th Edition, Pearson Education, Inc. USA. .

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11
CO1	✓										
CO2	✓										
CO3	✓										
CO4	✓										
CO5										✓	