MODULE HANDBOOK

Master Program in Mathematics Education

Faculty of Teacher Training and Education
SRIWIJAYA UNIVERSITY

Master Program in Mathematics Education   **MODULE HANDBOOK**

Module designation	:	Statistics Mathematics / GMA5210
Semester	:	2st (Second) / even
Person responsible for the module	:	Prof. Dr. Ratu Ilma Indra Putri, S.Pd., M.Si.
Language	:	Indonesian and English
Relation to the curriculum	:	Compulsory Course
Teaching methods	:	- Lecturers: expository (Week 1 - 3) - Group discussions and presentation (Week 4 - 7 and Week 9 - 14) - Project based Learning (Week 15 - 16)
Workload	:	14 weeks per semester excluding mid-term and final exams. 1 sks per week = 270 minutes, consisting of 50 minutes synchronous learning + 100 minutes asynchronous learning + 120 minutes systematic project. 270 minutes × 3 sks = 810 minutes = 13.5 hours per week 14 weeks × 13.5 hours = 189 hours 189 hours : 25 hours (1 ECTS) = 7.56 ECTS
Credit points	:	3 SKS = 3 × 2.52 ECTS = 7.56 ECTS
Prerequisite's course(s)	:	-
Module objectives	:	After taking this course, students have the ability to: CO 1: Demonstrating a sense of responsibility in independently completing assigned tasks. CO 2: Mastering the concepts of probability, random variables, and their distributions. CO 3: Mastering the concepts of parameter estimation (estimation). CO 4: Analyzing the properties of estimators. CO 5: Mastering the concepts of random variable transformations and order statistics. CO 6: Mastering the limit distribution and sampling distribution. CO 7: Mastering the concepts of hypothesis testing. CO 8: Designing hypothesis tests based on the analysis of problems and solutions in mathematics education
Content	:	This course discusses: 1. Basic concepts of opportunity, properties of opportunity, determining sample space, and solving problems related to probability axioms,

		2. Discrete and continuous random variables at probability, 3. Properties of random variables, 4. joint Probability Distribution Function, 5. distribution function, 6. Transformation of two random variables, 7. Sequence statistics, 8. Limit distribution, 9. Sampling distribution, 10. Point estimator and its properties, 11. Estimator properties: unbiased and efficient, 12. Estimator properties: adequate and consistent
Examination forms	:	Examination in this course includes: 1. Affective (actively participating during classroom processes and responsible for doing assignments) 2. Assignments 3. Mid-term test in the 8th meeting 4. Project
Study and examination requirements	:	It is expected that students attend 80% of the total meetings in the modules. **Total Score** = 25% of Affective and Assignment + 35% of Midterm + 40% of End-of-semester exams The total score is converted into a qualitative score, To successfully pass the module, the minimum grade required is C.
Reading lists	:	1. Hogg,R.V., Kean,J.W,Craig A.T.,2005, An Introduction To Mathematical Statistics, Prentice Hall 2. Black, Ken. (2013). Business for Contemporary Decision Making Statistics. John Willey & Sons

Total Score	Grade	Description
86 – 100	A	Excellent
71 – 85.99	B	Good
56 – 70.99	C	Fair
41 – 55.99	D	Bad
0 – 40.99	E	Worse

	3. Hair, J.F., Black, B., Babin, B., Anderson, R, E & Tatham, R. L. (2006). Multivariate data analysis, 6th Edition. New Jersey: Prentice Hall International, Inc 4. Ratu Ilma Indra Putri dan Jeri Araiku, Statistik Nonparametrik, 2020 5. Sheskin, D. J. (2000). Handbook of Parametric and Nonparametric Statistical Procedures (2nd edition). United States of America: Chapman & Hall/CRC. 6. Sprent, P. and Smeeton, N. C. (2001). Applied Nonparametric Statistical Methods (3rd edition). London: Chapman & Hall/CRC. 7. Corder, G. W. and Foreman, D. I. (2009). Nonparametric Statistics for Non-Statisticians: A Step-By-step Approach. Canada: John Wiley & Sons, Inc.

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CO1	√							
CO2		√						
CO3		√						
CO4		√						
CO5		√						
CO6		√						
CO7		√						
CO8					√			

PLO	CO
PLO 1 Able to take responsibility, discipline, and collaborate professionally and ethically in completing mathematics education tasks	CO 1 Demonstrating a sense of responsibility in independently completing assigned tasks.
PLO 2 Master and able to expand mathematical knowledge	CO 2 Mastering the concepts of probability, random variables, and their distributions.
	CO 3 Mastering the concepts of parameter estimation (estimation).
	CO 4 Analyzing the properties of estimators.

	CO 5 Mastering the concepts of random variable transformations and order statistics.
	CO 6 Mastering the limit distribution and sampling distribution.
	CO 7 Mastering the concepts of hypothesis testing.
PLO 5 Able to critically analyze current issues in mathematics education using inter and/or multidisciplinary approaches	CO 8 Designing hypothesis tests based on the analysis of problems and solutions in mathematics education