	INSTITUT TEKNOLOGI SEPULUH NOPEMBER **FACULTY OF SCIENCE AND DATA ANALYTICS** **DEPARTMENT OF STATISTICS** **STATISTICS UNDERGRADUATE PROGRAM**		
Course	Course Name	:	**Nonparametric Statistics**
	Course Code	:	SS234417
	Credit	:	3 SKS
	Semester	:	IV

COURSE DESCRIPTION

Nonparametric Statistics is one of the Theory and Modeling Classes courses that analyze qualitative data. This course aims to study statistical data analysis methods that do not meet the assumptions of a normal distribution or a small sample size. This non-parametric statistics can solve single sample data, two or more independent or dependent, multiple comparisons for k samplessamples and measure the degree of closeness (correlation) of two variables with minimal ordinal scale. To achieve the competence of this subject, discussion learning methods are used, practice solving cases / questions and conducting experiments / experiments related to measuring qualitative data as well as selecting the right analysis method and using application packages.

PROGRAM LEARNING OUTCOME

PLO-5	Able to apply statistical theory to statistical methods
PLO-7	Able to use modern computing devices to solve statistical problems
PLO-9	Able to apply statistical methods to analyze theoretical and real problems

COURSE LEARNING OUTCOME

CLO. 1	Able to explain non-parametric statistical concepts
CLO. 2	Capable Formulate problem solving using qualitative (non-parametric) statistical modeling with appropriate
CLO. 3	Able to real problems using non-parametric statistics to support the completion ofwork.
CLO. 4	Able to identify, formulate, and solve nonparametric statistical problems in various applied fields
CLO. 5	Able to adapt to situations
CLO. 6	Able to make the right decisions based on analysis of information and data, and able to commun icate the results of analysis both orally and in writing.
CLO. 7	Able to communicate effectively and work together in an interdisciplinary team in and multidisciplinary teams.
CLO. 8	Have the responsibility and professional ethics
CLO. 9	Able to motivate oneself to think creatively and learn lifelong

MAIN SUBJECT

1. Introduction: Review Hypothesis Testing, Basic concepts of non- parametric statistics, Order Statistics
2. Single sample : test Random test (run test), Test sign (sign test), Wilcoxon Test, Binomial

Test
3. Two-sample independent : test Tuckey, test Median, test Mann Whitney, test Wald-Wolfowitz, test Fisher
4. Two sample tests dependent : Sign, Wilcoxon ranking, Mac Nemar test
5. Chi – Quadratic Test : Independency Test, Homogeneity Test
6. Testing independent k samples : Median test, Kruskal Wallis ranking, Jonckerheere-Terpstra test, Multiple comparison
7. Test dependent sample k : Friedman ranking, Multiple Comparison, Test Page, Durbin, Test Cochran Test
8. Test of distribution (Goodness of Fit) : test Chi Square, test Kolmogorov-Smirnov, test Liliefors
9. Correlation : Rank Rank Spearman, Tau Kendall Concordance W Kendall

PREREQUISITE

Introduction to Statistical Method

REFERENCES

1. Daniel, W. W., 2000. Applied nonparametric Statistics. Richmond TX, USA: Duxbury Press.
2. Petunjuk Manual MINITAB dan Petunjuk Manual SPSS
3. Siegel, S., 1992. Statistik Non Parametrik Untuk Ilmu-ilmu Sosial. Terjemahan. Jakarta: Gramedia.