



Universitas Negeri Surabaya
Faculty of Sports and Health Sciences,
Sports Education Masters Study Program

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Statistics	8510103036	Compulsory Study Program Subjects	T=3	P=0	ECTS=6.72	2	April 29, 2023
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator	
	Dr. Nur Ahmad Arief, M.Pd.		Dr. Nur Ahmad Arief, M.Pd.			Dr. Taufiq Hidayat, S.Pd., M.Kes.	

Learning model	Case Studies
-----------------------	---------------------

Program Learning Outcomes (PLO) PLO study program which is charged to the course

PLO-8 Have good morals, ethics and personality in completing his duties

Program Objectives (PO)

PO - 1 Demonstrate a responsible attitude in completing statistical analysis in the field of physical education independently

PO - 2 Able to prepare scientific arguments and solutions in solving statistics in the field of physical education that can be justified scientifically and academically and communicated with the community

PO - 3 Able to analyze problems in the field of statistics in the field of physical education using scientific and data-based principles (evidence based)

PO - 4 Able to apply technology in analyzing statistics in the field of physical education

PLO-PO Matrix

P.O	PLO-8
PO-1	
PO-2	
PO-3	
PO-4	

PO Matrix at the end of each learning stage (Sub-PO)

P.O	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PO-1																
PO-2																
PO-3																
PO-4																

Short Course Description Discussion of concepts regarding descriptive analysis, data requirements, parametric tests including independent t-test, paired sample t-test, anova, manova, pearson correlation, multivariate correlation, regression and non-parametric tests including Wilcoxon, Mann Whitney, Spearman rank, gamma, regression logistics.

References **Main :**

- O'Donoghue, P. 2012. Statistics for Sport and Exercise Studies: An Introduction. UK. Routledge.
- Maksum, A. 2018. Statistik Dalam Olahraga. Surabaya. Unesa University Press.
- Williams, C. and Wragg, C. 2004. Data Analysis and Research for Sport and Exercise Science. London. Routledge.
- Verma, J., P. 2016. Sports Research with Analytical Solution Using SPSS. New Jersey. John Wiley & Sons, Inc.

Supporters:

1. Sujarweni, V. W. 2014. SPSS Untuk Penelitian. Yogyakarta. Pustaka Baru Press.
2. Sarwono, J., 2012. Metode Riset Skripsi Pendekatan Kuantitatif Menggunakan Prosedur SPSS. Jakarta. PT Gramedia
3. Santoso, S. 2017. Menguasai Statistik dengan SPSS 24. Jakarta. PT Elex Media Komputindo.
4. Santoso, S. 2015. Menguasai Statistik Multivariate. Jakarta. PT Elex Media Komputindo.
5. Priyastama, R. 2017. Buku Sakti Kuasai SPSS, Pengolahan Data & Analisa Data. Bantul. PT Anak Hebat Indonesia
6. Pramesti, G. 2017. Statistika Penelitian Dengan SPSS 24. Jakarta. PT Gramedia.

Supporting lecturer Dr. Nur Ahmad Arief, S.Pd., M.Pd.

Week-	Final abilities of each learning stage (Sub-PO)	Evaluation		Help Learning, Learning methods, Student Assignments, [Estimated time]		Learning materials [References]	Assessment Weight (%)
		Indicator	Criteria & Form	Offline (offline)	Online (online)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	1.Explain the basic concepts of statistics 2.Explains descriptive data analysis 3.Solving problems regarding descriptive data	1.Formulate basic concepts of statistics 2.Formulate descriptive data analysis 3.Interpret and evaluate the results of descriptive analysis	Criteria: 1.Accuracy of formulation 2.Accuracy of analysis Form of Assessment : Participatory Activities	Learning Form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3 x 50		Material: Basic concepts of statistics and descriptive data analysis Reference: <i>Maksum, A. 2018. Statistics in Sports. Surabaya. Unesa University Press.</i>	5%
2	1.Formulate the concept of paired sample t-test 2.Practicing paired sample t-test analysis	1.Formulate the concept of paired sample t-test 2.Interpreting the results of the paired sample t-test	Criteria: 1.Liveliness 2.Accuracy of formulating the concept of paired sample t-test 3.Accuracy of paired sample t-test analysis 4.Interpreting the results of the paired sample t-test Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: Paired sample t-test analysis References: <i>Santoso, S. 2017. Mastering Statistics with SPSS 24. Jakarta. PT Elex Media Komputindo.</i> Material: paired sample t-test References: <i>O'Donoghue, P. 2012. Statistics for Sport and Exercise Studies: An Introduction. UK. Routledge.</i>	5%
3	1.Formulate the concept of independent sample t-test 2.Practicing independent sample t-test analysis	1.Formulate the concept of independent sample t-test 2.Interpreting the results of the independent sample t-test	Criteria: 1.Liveliness 2.Accuracy of formulating the concept of independent sample t-test 3.Accuracy of independent sample t-test analysis 4.Interpreting the results of the independent sample t-test Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: Independent sample t-test analysis Reference: <i>Sarwono, J., 2012. Thesis Research Method Quantitative Approach Using SPSS Procedures. Jakarta. PT Gramedia</i>	5%

4	1. Formulate the Anova concept 2. Practicing Anova analysis	1. Formulate the Anova concept 2. Interpreting Anova results	Criteria: 1. Liveliness 2. Accuracy of formulating the Anova concept 3. Accuracy of Anova analysis 4. Interpreting Anova results Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: Analysis of Variance Reference: Pramesti, G. 2017. <i>Research Statistics Using SPSS 24</i> . Jakarta. PT Gramedia.	5%
5	1. Formulate the Manova concept 2. Practicing Manova analysis	1. Formulate the Manova concept 2. Interpreting Manova results	Criteria: 1. Liveliness 2. The accuracy of formulating the Manova concept 3. Accuracy of Manova analysis 4. Interpreting Manova results Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: Manova Analysis References: Santoso, S. 2015. <i>Mastering Multivariate Statistics</i> . Jakarta. PT Elex Media Komputindo.	5%
6	1. Formulate the concept of Pearson correlation 2. Practicing pearson correlation analysis	1. Formulate the concept of Pearson correlation 2. Interpreting Pearson correlation results	Criteria: 1. Liveliness 2. The accuracy of formulating the pearson correlation concept 3. The accuracy of pearson correlation analysis 4. Interpreting Pearson correlation results Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: pearson correlation Bibliography: Priyastama, R. 2017. <i>The Magic Book of Mastering SPSS, Data Processing & Data Analysis</i> . Bantul. PT Great Indonesian Children	5%
7	1. Formulate the concept of partial correlation 2. Practicing partial correlation analysis	1. Formulate the concept of partial correlation 2. Interpreting partial correlation results	Criteria: 1. Liveliness 2. The accuracy of formulating the concept of partial correlation 3. Accuracy of partial correlation analysis 4. Interpreting partial correlation results Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: Partial correlation Reference: Santoso, S. 2017. <i>Mastering Statistics with SPSS 24</i> . Jakarta. PT Elex Media Komputindo.	5%
8	Mastering material 1-7	Midterm exam	Criteria: Accuracy in solving problems based on existing data Form of Assessment : Participatory Activities, Practice/Performance	3x50	3x50	Material: UTS Material Reference: Maksum, A. 2018. <i>Statistics in Sports</i> . Surabaya. Unesa University Press.	15%

9	1. Formulate the concept of regression 2. Practicing regression analysis	1. Formulate the concept of regression 2. Interpret the results of regression analysis	Criteria: 1. Liveliness 2. Accuracy of formulating the concept of regression 3. Accuracy of analyzing regression 4. Interpret the results of regression analysis Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: Regression analysis References: Verma, J., P. 2016. <i>Sports Research with Analytical Solution Using SPSS</i> . New Jersey. John Wiley & Sons, Inc.	5%
10	1. Formulate the concept of discriminant analysis 2. Practicing discriminant analysis	1. Formulate the concept of discriminant analysis 2. Interpret the results of discriminant analysis	Criteria: 1. Liveliness 2. Accuracy of formulating the concept of discriminant analysis 3. Accuracy of analyzing discriminants 4. Interpret the results of discriminant analysis Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: Discriminant analysis References: Santoso, S. 2015. <i>Mastering Multivariate Statistics</i> . Jakarta. PT Elex Media Komputindo.	5%
11	1. Formulate the Wilcoxon concept 2. Practicing Wilcoxon analysis	1. Formulate the concept of Wilcoxon analysis 2. Interpreting the results of Wilcoxon analysis	Criteria: 1. Liveliness 2. The accuracy of formulating the concept of Wilcoxon analysis 3. Accuracy of Wilcoxon analysis 4. Interpreting the results of Wilcoxon analysis Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: Wilcoxon test References: Santoso, S. 2017. <i>Mastering Statistics with SPSS 24</i> . Jakarta. PT Elex Media Komputindo. Material: Wilcoxon Reference: Williams, C. and Wragg, C. 2004. <i>Data Analysis and Research for Sport and Exercise Science</i> . London. Routledge.	5%
12	1. Formulate the Mann-Whitney concept 2. Practicing Mann-Whitney analysis	1. Formulate the concept of Mann-Whitney analysis 2. Interpreting the results of the Mann-Whitney analysis	Criteria: 1. Liveliness 2. The accuracy of formulating the concept of Mann-Whitney analysis 3. Accuracy of Mann-Whitney analysis 4. Interpreting the results of the Mann-Whitney analysis Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: Mann-Whitney test Reference: Santoso, S. 2017. <i>Mastering Statistics with SPSS 24</i> . Jakarta. PT Elex Media Komputindo. Material: Mann-Whitney test References: Verma, J., P. 2016. <i>Sports Research with Analytical Solution Using SPSS</i> . New Jersey. John Wiley & Sons, Inc.	5%

13	1. Formulate the Kruskal-Wallis concept 2. Practicing Kruskal-Wallis analysis	1. Formulate the concept of Kruskal-Wallis analysis 2. Interpreting the results of the Kruskal-Wallis analysis	Criteria: 1. Liveliness 2. The accuracy of formulating the concept of Kruskal-Wallis analysis 3. Accuracy of Kruskal-Wallis analysis 4. Interpreting the results of the Kruskal-Wallis analysis Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: Kruskal-wallis test Reference: Santoso, S. 2017. <i>Mastering Statistics with SPSS 24</i> . Jakarta. PT Elex Media Komputindo.	5%
14	1. Formulate the concept of Spearman's rank correlation 2. Practicing Spearman's rank correlation analysis	1. Formulate the concept of Spearman's rank correlation analysis 2. Interpreting the results of Spearman's rank correlation analysis	Criteria: 1. Liveliness 2. The accuracy of formulating the concept of Spearman's rank correlation analysis 3. Accuracy of analyzing Spearman's rank correlation 4. Interpreting the results of Spearman's rank correlation analysis Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: spearman rank Bibliography: Priyastama, R. 2017. <i>The Magic Book of Mastering SPSS, Data Processing & Data Analysis</i> . Bantul. PT Great Indonesian Children	5%
15	1. Formulate the concept of logistic regression 2. Practicing logistic regression analysis	1. Formulate the concept of logistic regression analysis 2. Interpret the results of logistic regression analysis	Criteria: 1. Liveliness 2. Accuracy of formulating the concept of logistic regression analysis 3. Accuracy of analyzing logistic regression 4. Interpret the results of logistic regression analysis Form of Assessment : Participatory Activities	Learning form: Response and tutorial Learning method: Problem based Student Assignment: Structured and independent 3x50		Material: Logistic regression Reference: O'Donoghue, P. 2012. <i>Statistics for Sport and Exercise Studies: An Introduction</i> . UK. Routledge.	5%
16	Mastering material 1-15	Final exams	Criteria: Accuracy in solving problems based on existing data Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	3x50	3x50	Material: UAS questions Reference: Santoso, S. 2015. <i>Mastering Multivariate Statistics</i> . Jakarta. PT Elex Media Komputindo.	15%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	85%
2.	Project Results Assessment / Product Assessment	7.5%
3.	Practice / Performance	7.5%
		100%

Notes

1. **Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.

2. **The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
3. **Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
4. **Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
5. **Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
6. **Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
7. **Forms of assessment:** test and non-test.
8. **Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
9. **Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
10. **Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
11. **The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
12. TM=Face to face, PT=Structured assignments, BM=Independent study.