				Document Code
	Universitas Negeri Surabaya **Faculty of Education,** **Undergraduate Study Program in Out-of-School Education**			

SEMESTER LEARNING PLAN

Courses		**CODE**	**Course Family**	**Credit Weight**			**SEMESTER**	**Compilation Date**
Statistics		8620503191	Compulsory Study Program Subjects	T=3	P=0	ECTS=4.77	5	January 4, 2023

AUTHORIZATION		**SP Developer**		**Course Cluster Coordinator**	**Study Program Coordinator**
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Learning model	**Project Based Learning**	
Program Learning Outcomes (PLO)	**PLO study program which is charged to the course**	
	PLO-3	Develop logical, critical, systematic and creative thinking in carrying out specific work in their field of expertise and in accordance with work competency standards in the field concerned
	PLO-7	Mastering the process of planning, implementing and evaluating non-formal education programs
	PLO-10	Able to communicate both in writing and orally in accordance with academic values, norms and ethics
	PLO-11	Able to utilize technology and information in solving problems in accordance with their field of expertise
	Program Objectives (PO)	
	PO - 1	Mastering research concepts and procedures so as to be able to design and carry out research in the field of Non-formal Education critically, creatively, collaboratively, communicatively, with information technology (IT) literacy, as well as with integrity and character
	PO - 2	Have the skills to implement research implementation steps in a research design.
	PO - 3	Have a positive attitude to participate in learning well.
	PLO-PO Matrix	

P.O	PLO-3	PLO-7	PLO-10	PLO-11
PO-1	✔	✔	✔	
PO-2	✔		✔	✔
PO-3	✔	✔		✔

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			✔			✔	✔				✔			✔		

Short Course Description	This course is designed to help students master and analyze the substance of content and processes in statistics as well as apply and present data from statistical testing results oriented towards active, innovative, creative, effective and adaptive science and technology learning in the context of problem solving. The material provided includes basic concepts of statistics, sampling and population, variables, and measurement scales (ordinal, nominal, interval, ratio); presentation of statistical data; data reliability and validity; parametric statistics and nonparametric statistics; descriptive statistics: frequency distribution, graphical presentation, central tendency, variability, normal distribution; inferential statistics: probability, sampling distribution, recommendations, z test, t test, chi-square test; Statistical test of data using Microsoft Excel and SPSS. This course aims to provide understanding and skills in descriptive statistical theory, measurement scales, central tendency, statistical test requirements, parametric and non-parametric statistics and statistical analysis using SPSS. Lectures are carried out by providing material, introducing statistical applications in the form of SPSS and then practicing calculating using the SPSS application. Indicators of success are that students are able to map research using statistical calculations, students are able to apply statistics to research, and students can use the SPSS application well.

References	Main :	
	1. Furqon, (2001). Statistika Terapan untuk Penelitian. Bandung: Alfabeta. 2. Irianto, A. (1988). Statistik Pendidikan (1). Jakarta: Depdikbud. 3. Sudjana. (1989). Metoda Statistika. Edisi Kelima. Bandung: Tarsito. 4. Riyanto Yatim (2017) Metodologi Penelitian Kualitatif dan Kuantitatif. Surabaya: UNIPRESS	
	Supporters:	
Supporting lecturer	Dr. Sjafiatul Mardliyah, S.Sos., M.A. Monica Widyaswari, 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	Understanding the scope and use of statistics in education	1. Analyze the basic concepts, objectives and uses of statistics 2. Distinguish between the concepts of descriptive statistics and inferential statistics	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** basics of quantitative research **Reference:** *Irianto, A. (1988). Education Statistics (1). Jakarta: Department of Education and Culture.* **Material:** quantitative research **Reference:** *Furqon, (2001). Applied Statistics for Research. Bandung: Alphabeta.*	3%
2	Understanding of data measurement scales (nominal, ordinal, interval and ratio).	Distinguish between data measurement scales (nominal, ordinal, interval, and ratio).	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Data measurement scales (nominal, ordinal, interval and ratio). **Reader:** *Sudjana. (1989). Statistical Methods. Fifth Edition. Bandung: Tarsito.* **Material:** basics of quantitative research **Reference:** *Riyanto Yatim (2017) Qualitative and Quantitative Research Methodology. Surabaya: UNIPRESS*	3%

3	Understanding of frequency distribution lists, graphs, diagrams	Conduct analysis of measures of central tendency: Mean, median, mode and data presentation techniques (frequency distribution lists, graphs, diagrams)	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** diagrams **References:** *Furqon, (2001). Applied Statistics for Research. Bandung: Alphabeta.* **Material:** Mean, median, mode and data presentation techniques (Frequency distribution list, graphs, diagrams) **References:** *Irianto, A. (1988). Education Statistics (1). Jakarta: Department of Education and Culture.*	3%
4	Understanding the size of variation	Conduct analysis regarding measures of variation: range, interquartile range, mean deviation, standard deviation, and variance	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Range, interquartile range, mean deviation, standard deviation, and variance **Reader:** *Sudjana. (1989). Statistical Methods. Fifth Edition. Bandung: Tarsito.*	3%
5	Understanding of Probability and its distribution, curves and standard normal distribution	Carry out analysis regarding probability and its distribution, curves and standard normal distribution	**Criteria:** Students are declared to have passed if 75% are able to solve all UTS questions **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Probability and its distribution, curve and standard normal distribution **Reference:** *Riyanto Yatim (2017) Qualitative and Quantitative Research Methodology. Surabaya: UNIPRESS* **Material:** Probability and its distribution, curve and standard normal distribution **Reference:** *Sudjana. (1989). Statistical Methods. Fifth Edition. Bandung: Tarsito.*	3%

6	Understanding of parametric statistical test requirements	Carrying out analysis regarding parametric statistical requirements tests: Data normality test: (simple method, Kolmogorov and Lillofors test), and reading table L	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Test of parametric statistical requirements **Reader:** *Sudjana. (1989). Statistical Methods. Fifth Edition. Bandung: Tarsito.*	3%
7	Understanding of parametric t-test requirements	Carry out analysis regarding the parametric t-test requirements test: Homogeneity of variance test, table F	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Test of parametric t-test requirements **Reader:** *Sudjana. (1989). Statistical Methods. Fifth Edition. Bandung: Tarsito.*	4%
8	Understanding of Pearson's parametric statistical requirements test for product moment correlation	Conduct analysis regarding the parametric statistical requirements test for product moment correlation from Pearson: Regression linearity test, Fisher distribution table.	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Test	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Parametric t-test requirements test **Reference:** *Riyanto Yatim (2017) Qualitative and Quantitative Research Methodology. Surabaya: UNIPRESS*	20%
9	Understanding of Pearson product moment correlation test, determination, table r	Conduct analysis regarding Pearson's product moment correlation test, determination, table r	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Test of parametric t-test requirements **Reader:** *Sudjana. (1989). Statistical Methods. Fifth Edition. Bandung: Tarsito.*	4%
10	Understanding of the difference between two means (t-test), t-Student distribution table	Conduct analysis regarding the difference test between two means (t-test), t-Student distribution table	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Difference test between two means (t-test), t-Student distribution table **Library:** *Sudjana. (1989). Statistical Methods. Fifth Edition. Bandung: Tarsito.*	4%
11	Understanding of simple Variance Analysis	Carry out analysis regarding simple Variance Analysis (one way), Fisher distribution table	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Difference test between two means (t-test), t-Student distribution table **Reference:** *Irianto, A. (1988). Education Statistics (1). Jakarta: Department of Education and Culture.*	4%

12	Understanding of the Kruskal Wallis Test (simple one-way ANOVA for non-parametric statistics)	Conduct analysis regarding the Kruskal Wallis Test (simple one-way ANOVA for non-parametric statistics)	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Kruskal Wallis test (simple one-way ANOVA for non-parametric statistics) **References:** *Sudjana. (1989). Statistical Methods. Fifth Edition. Bandung: Tarsito.*	4%
13	Understanding of the Spearman rank correlation test (rho) and sign test (T)	Conduct analysis regarding the Spearman rank correlation test (rho) and sign test (T)	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Kruskal Wallis Test (simple one-way ANOVA for non-parametric statistics) **References:** *Riyanto Yatim (2017) Qualitative and Quantitative Research Methodology. Surabaya: UNIPRESS* **Material:** Spearman's rank correlation test (rho) and sign test (T) **References:** *Furqon, (2001). Applied Statistics for Research. Bandung: Alphabeta.*	4%
14	Understanding of the Wilcoxon and Mann-Whitney Tests (difference between two means test for Nonparametric Statistics), Mann Whitney U table.	Carry out analysis regarding the Wilcoxon and Mann-Whitney tests (difference between two means test for Nonparametric Statistics), Mann Whitney U table.	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** Wilcoxon and Mann-Whitney tests (two mean difference tests for Nonparametric Statistics), Mann Whitney U table. **Reader:** *Sudjana. (1989). Statistical Methods. Fifth Edition. Bandung: Tarsito.*	4%
15	Understanding of the use of ICT in analyzing statistics	Perform statistical analysis using MS.Excel and SPSS software	**Criteria:** Students are declared to have passed if 75% are able to solve the questions from the material/sub-material provided **Form of Assessment** : Participatory Activities	Expository & inquiry, question and answer and discussion. 3 X 50		**Material:** use of ICT in analyzing statistics **References:** *Riyanto Yatim (2017) Qualitative and Quantitative Research Methodology. Surabaya: UNIPRESS*	4%

16	Students have a comprehensive understanding of testing in statistics		**Form of Assessment** : Test	3 X 50		**Material:** use of ICT in analyzing statistics **Reference:** *Furqon, (2001). Applied Statistics for Research. Bandung: Alphabeta.*	30%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	50%
2.	Test	50%
		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.