	Universitas Negeri Surabaya **Faculty of Engineering** **, Information Technology Education Undergraduate Study Program**	**Document Code**

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Statistics	8320702090		T=2	P=0	ECTS=3.18	5	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Drs. Bambang Sujatmiko, M.T.

Learning model	**Case Studies**	
Program Learning Outcomes (PLO)	**PLO study program which is charged to the course**	
	PLO-6	Able to make decisions based on data/information and able to solve problems in the field of information technology.
	PLO-12	Able to implement science, technology, engineering, and mathematics (STEM) and informatics knowledge into research in education.
	Program Objectives (PO)	
	PLO-PO Matrix	

P.O	PLO-6	PLO-12

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

Short Course Description	Descriptive Statistics, including: data description (data tables and graphs), central tendency (average, mode, median, decile, quartile and percentile), dispersion (standard deviation, variance). Statistical computer program (SPSS). Estimation of population parameters (mean, standard deviation/variance, proportion). Principles of hypothesis testing (one tail and two tails). Parametric statistics: (1) similarity test of the average of one sample and two samples (t-test and z test), (2) test of similarity of the average of k samples (1-way ANOVA, 2-way factorial ANOVA, and post hoc test) , (3) correlation analysis (moment and partial products), (4) regression analysis. Test analysis requirements (normality of distribution, homogeneity/homoscedasticity of variance, linearity of homoscedasticity/heteroscedasticity relationship, independence of independent variables (multicollinearity), and auto correlation). Non-parametric statistics includes comparative hypothesis testing: (1) one sample, (2) two independent samples, (3) two correlated samples, (4) many (k) samples, (5) associative hypothesis testing of nominal and ordinal data.	
References	**Main :**	
	1. Basuki, Ismet. 2014. Handout Mata Kuliah Statistika TM-1 sd TM-16 (Print Out Power Point). Ferguson, George A. 1998. Statistical Analysis In Psychology And Education . New York: McGraw-Hill. Peer, I.S. 2006. Statistical Analysis for Education and Psychology Researchers . London: UK Falmer Press. Sudjana. 1992. Metoda Statistika . Bandung: Tarsito. Wijaya. 2001. Analisis Statistik dengan Program SPSS . Bandung. Alfabeta. Wijaya. 2003. Statistika Non Parametrik: Aplikasi Program SPSS . Bandung. Alfabeta	
	Supporters:	
Supporting lecturer	Drs. Bambang Sujatmiko, M.T. Dr. Yuni Yamasari, S.Kom., M.Kom. Harun Al Rosyid, S.T., M.T.	

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	Lecture Contract Students are able to understand statistical concepts	1.Accuracy in explaining basic statistical concepts 2.Accuracy in solving multivariate problems in everyday life	**Criteria:** Grading criteria rubric **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	lecture, small group discussion 3x50			0%
2	Lecture Contract Students are able to understand statistical concepts	1.Accuracy in explaining basic statistical concepts 2.Accuracy in solving multivariate problems in everyday life	**Criteria:** Grading criteria rubric **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	lecture, small group discussion 3x50			0%
3	Students are able to understand data presentation and application in research	1.Accuracy in explaining the presentation of data and its application in research 2.Accuracy in completing tasks independently 3.Systematics and style of completion	**Criteria:** Grading criteria rubric **Form of Assessment** : Portfolio Assessment, Practical Assessment	lecture, small group discussion 3x50			0%
4	Students are able to understand data presentation and application in research	1.Accuracy in explaining the presentation of data and its application in research 2.Accuracy in completing tasks independently 3.Systematics and style of completion	**Criteria:** Grading criteria rubric **Forms of Assessment** : Project Results Assessment / Product Assessment, Portfolio Assessment, Practical Assessment	lecture, small group discussion 3x50			0%
5	Students are able to understand the frequency distribution list and its application in data	1.Accuracy explains the list of frequency distributions and their application in data 2.Accuracy in completing tasks independently 3.Systematics and style of completion	**Criteria:** Grading criteria rubric **Form of Assessment** : Portfolio Assessment	lecture, small group discussion 3x50			0%

6	Students are able to understand the frequency distribution list and its application in data	1. Accuracy explains the list of frequency distributions and their application in data 2. Accuracy in completing tasks independently 3. Systematics and style of completion	**Criteria:** Grading criteria rubric **Form of Assessment** : Portfolio Assessment	lecture, small group discussion 3x50			0%
7	Students are able to understand the concept of centralization measures	1. Accuracy explains the concept of centralization measures 2. Accuracy in completing tasks independently 3. Systematics and style of completion	**Criteria:** Grading criteria rubric **Form of Assessment** : Project Results Assessment / Product Assessment, Portfolio Assessment	lecture, small group discussion 3x50			0%
8	Midterm exam						0%
9	Understand the concept of data distribution measures	1. Precision explains the concept of dispersion measures 2. Accuracy in completing tasks independently 3. Systematics and style of completion	**Criteria:** Grading criteria rubric **Form of Assessment** : Project Results Assessment / Product Assessment	lecture, small group discussion 3x50			0%
10	Understand the concept of data distribution measures	1. Precision explains the concept of dispersion measures 2. Accuracy in completing tasks independently 3. Systematics and style of completion	**Criteria:** Grading criteria rubric **Form of Assessment** : Project Results Assessment / Product Assessment	lecture, small group discussion 3x50			0%
11	Students are able to understand hypothesis testing in decision making	1. Accuracy explains understanding hypothesis testing in decision making 2. Accuracy in solving questions about hypothesis testing 3. Accuracy in completing tasks independently 4. Systematics and style of completion	**Criteria:** Grading criteria rubric **Form of Assessment** : Project Results Assessment / Product Assessment	lecture, small group discussion 3x50			0%

12	Students are able to understand hypothesis testing in decision making	1. Accuracy explains understanding hypothesis testing in decision making 2. Accuracy in solving questions about hypothesis testing 3. Accuracy in completing tasks independently 4. Systematics and style of completion	**Criteria:** Grading criteria rubric **Form of Assessment** : Project Results Assessment / Product Assessment	lecture, small group discussion 3x50			0%
13	Students are able to understand hypothesis testing in decision making	1. Accuracy explains understanding hypothesis testing in decision making 2. Accuracy in solving questions about hypothesis testing 3. Accuracy in completing tasks independently 4. Systematics and style of completion	**Criteria:** Grading criteria rubric **Form of Assessment** : Project Results Assessment / Product Assessment	lecture, small group discussion 3x50			0%
14	Students are able to understand regression and correlation analysis	1. Accuracy in solving questions about regression and correlation analysis 2. Accuracy in completing tasks independently 3. Systematics and style of completion	**Criteria:** Grading criteria rubric **Form of Assessment** : Portfolio Assessment	lectures, small group discussions			0%
15	Students are able to understand regression and correlation analysis	1. Accuracy in solving questions about regression and correlation analysis 2. Accuracy in completing tasks independently 3. Systematics and style of completion	**Criteria:** Grading criteria rubric **Form of Assessment** : Portfolio Assessment	lectures, small group discussions			0%
16	Final exams						0%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
		0%

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.