				Document Code
	Universitas Negeri Surabaya **Faculty of Engineering** **Civil Engineering Undergraduate Study Program**			

SEMESTER LEARNING PLAN

Courses		CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Statistics		2220103148	Compulsory Study Program Subjects	**T=2**	**P=1**	**ECTS=4.77**	3	July 17, 2024

AUTHORIZATION		SP Developer	Course Cluster Coordinator	Study Program Coordinator
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Learning model	Case Studies

Program Learning Outcomes (PLO)	**PLO study program which is charged to the course**	
	Program Objectives (PO)	
	PO - 1	Students have an understanding of the basic theoretical concepts of statistics for educational and applied research in the field of building construction
	PO - 2	Students have the ability to explain the theory of descriptive statistics and inferential statistics (parametric and non-parametric).
	PO - 3	Students have the ability to present and analyze data to support the preparation of practical reports, research, theses and scientific articles.
	PLO-PO Matrix	

P.O
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 provides an understanding of basic statistical theory and types of data, presentation and analysis of data to support the preparation of a thesis using both descriptive and inferential statistics (parametric and non-parametric). Learning is carried out using a direct teaching model by applying a constructivist approach. The learning activity ends with practice analyzing and presenting research data. Evaluation of learning with written tests.

References	Main :	
	1. Suparji, Palupi, A.E. dan Mulyono, W.D. (2020). Statistik untuk Penelitian Pendidikan. Surabaya:Prima Abadi Jaya 2. Sujana.1(989).Metoda Statistika.Tarsito:Bandung 3. Sugiyono. (2012). Statistik untuk Penelitian. Jakarta:Rajawali Pers 4. Djarwanto& Subagyo.(1994). Statistik Induktif. Yogyakarta:BPFE	
	Supporters:	
	1. Sukardi. (2011). Metode Penelitian Pendidikan, Kompetensi dan Praktiknya. Jakarta:Bumi Aksara	

Supporting lecturer	Prof. Dr. Suparji, S.Pd., M.Pd. Wahyu Dwi Mulyono, 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	Explain the meaning of statistics	1. Explain the meaning of statistics 2. Explain various types of statistics	**Criteria:** Criteria: correct oral questions are given a score which is part of the Participation SCORE **Form of Assessment** : Participatory Activities	direct learning, discussion, questions and answers, practice questions 2 X 50		**Material:** Definition and types of statistics **Reader:** *Sujana. (1989). Statistical Methods. Tarsito: Bandung*	3%
2	Identify various types of data presentation	1. Explain the presentation of data with tables 2. Explain the presentation of data using a frequency distribution table 3. Differentiate between various tables	**Criteria:** Criteria: correct oral questions are given a score which is part of the Participation SCORE **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Direct learning, discussion, questions and answers, and practice questions 2 X 50		**Material:** Data presentation **Library:** *Sujana.1(989).Statistical Methods.Tarsito:Bandung*	3%
3	Calculating central tendency (mean, median, and mode)	1. Calculates the mean, median, and mode of single data 2. Calculate the mean, median, and mode of grouped data	**Criteria:** Assignment of assignments **Form of Assessment** : Participatory Activities	Direct learning, discussion, questions and answers, and practice questions 2 X 50		**Material:** Calculating men, median, and mode for single and group data **Reference:** *Sujana.1(989).Statistical Methods.Tarsito:Bandung*	5%
4	Calculating Dispersion (range and variance)	Students can calculate standard deviation and variance	**Criteria:** Given an assignment **Form of Assessment** : Participatory Activities	Direct learning, discussions, questions and answers, and practice questions. 4 X 50		**Material:** calculating standard deviation and variance **Reference:** *Sujana.1(989).Statistical Methods.Tarsito:Bandung*	3%
5	Calculating the probability of an event	Calculates probabilities, expectations, permutations, combinations, and probability distributions	**Criteria:** Given an assignment **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Direct learning, discussions, questions and answers, and practice questions. 4 X 50		**Material:** Probability **References:** *Djarwanto & Subagyo. (1994). Inductive Statistics. Yogyakarta: BPFE*	3%
6	Planning the sample size of the population	1. Explain the meaning of population and sample. 2. Explain the various sampling techniques 3. Determine the number and size of samples	**Criteria:** Oral questions **Form of Assessment** : Participatory Activities	Direct learning, discussion, questions and answers, and practice questions 2 X 50		**Material:** Population and sample **Reference:** *Sugiyono. (2012). Statistics for Research. Jakarta: Rajawali Press*	3%
7	Explain the hypothesis and its testing	1. Explain the meaning and form of a hypothesis 2. Explain the various types of hypotheses and their testing	**Criteria:** The task of testing a hypothesis **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Direct learning, exercises, discussions and questions and answers. 2 X 50		**Material:** Hypothesis and testing **Reference:** *Sugiyono. (2012). Statistics for Research. Jakarta: Rajawali Press*	3%
8	Able to do UTS questions (written test)	Able to do UTS questions (written test)	**Criteria:** Able to do UTS questions (written test) **Form of Assessment** : Participatory Activities, Tests	Written test 2 X 50		**Material:** UTS **Reader:** *Sugiyono. (2012). Statistics for Research. Jakarta: Rajawali Press*	20%

9	Students can use: t test to test hypotheses software (Software) to test hypotheses manual methods and software (Software) to interpret the results of calculations	explain and test normality, homogeneity, multicollinearity, and linearity	**Criteria:** Given an assignment **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Direct learning, exercises, discussions and questions and answers. 4 X 50		**Material:** parametric statistical requirements test **Reader:** *Sugiyono. (2012). Statistics for Research. Jakarta: Rajawali Press*	4%
10	Conduct descriptive hypothesis testing	Able to test descriptive hypotheses for 1 party and 2 parties	**Criteria:** Correct oral questions are given a score which is part of the Participation SCORE **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Direct learning, exercises, discussions and questions and answers. 2 X 50		**Material:** Descriptive hypothesis and testing **References:** *Suparji, Palupi, AE and Mulyono, WD (2020). Statistics for Educational Research. Surabaya: Prima Abadi Jaya*	4%
11	Carry out associative hypothesis testing	Calculates single, multiple, and partial correlations	**Criteria:** The task of calculating correlation **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Direct learning, exercises, discussions and questions and answers. 4 X 50		**Material:** Correlation **Literature:** *Suparji, Palupi, AE and Mulyono, WD (2020). Statistics for Educational Research. Surabaya: Prima Abadi Jaya*	4%
12	Carry out associative hypothesis testing	Computes single, multiple, and partial regressions	**Criteria:** The task of calculating regression **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Direct learning, exercises, discussions and questions and answers. 4 X 50		**Material:** Correlation **Literature:** *Suparji, Palupi, AE and Mulyono, WD (2020). Statistics for Educational Research. Surabaya: Prima Abadi Jaya* **Material:** Regression **Literature:** *Suparji, Palupi, AE and Mulyono, WD (2020). Statistics for Educational Research. Surabaya: Prima Abadi Jaya*	4%
13	Conduct comparative hypothesis testing	Test the difference with the t test	**Criteria:** The task is to test differences with the t test **Form of Assessment** : Participatory Activities	Direct learning, exercises, discussions and questions and answers. 2 X 50		**Material:** Difference test with t test **References:** *Suparji, Palupi, AE and Mulyono, WD (2020). Statistics for Educational Research. Surabaya: Prima Abadi Jaya*	4%
14	Conduct comparative hypothesis testing	Testing the difference with the F/Anava test	**Criteria:** The task of testing differences with the F test (anava) **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Direct learning, exercises, discussions and questions and answers. 2 X 50		**Material:** Difference test with t test **References:** *Suparji, Palupi, AE and Mulyono, WD (2020). Statistics for Educational Research. Surabaya: Prima Abadi Jaya*	4%
15	Analyze data using statistical application program software	Processing data with applications	**Criteria:** The task of processing data with applications **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Direct learning, discussions, exercises, demonstrations, questions and answers, assignments		**Material:** SPSS **Reader:** *Cornelius, Trihendradi. 2005. Step by Step SPSS, Statistical Data Analysis. Yogyakarta: Andi Offset.* **Material:** Processing data with the **Library application:** *Suparji, Palupi, AE and Mulyono, WD (2020). Statistics for Educational Research. Surabaya: Prima Abadi Jaya*	3%

| 16 | Able to take the UAS test (written test) | Able to do UAS questions (written test) | **Criteria:** Able to do UAS questions (written test)

Form of Assessment : Participatory Activities, Tests | Test | | **Material:** UAS **Reference:** *Suparji, Palupi, AE and Mulyono, WD (2020). Statistics for Educational Research. Surabaya: Prima Abadi Jaya* | 30% |

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	59%
2.	Project Results Assessment / Product Assessment	16%
3.	Test	25%
		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** abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities 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.