	Universitas Negeri Surabaya Vocational Faculty, D4 Electrical Engineering Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Statistics	2030502335		T=2	P=0	ECTS=3.18	3	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Mahendra Widyartono, S.T., M.T.

Learning model	**Case Studies**
Program Learning Outcomes (PLO)	**PLO study program that is charged to the course**
	Program Objectives (PO)
	PLO-PO Matrix

	P.O

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	Introduction and understanding of statistics, data processing, distribution, frequency, hypothesis testing (parametric and non-parametric), simple and multiple linear regression, validity and reliability testing
References	**Main :**
	1. Sudjana.1980. Metoda statistika . Bandung:Tarsito.Hadi,Sutrisno. 1980. Satistik I, II, III .Yogyakarta: Fakultas Psikologi UGM. Moedjiarto.1996. Uji Hipotesis . Surabaya:Unipress IKIP Surabaya.
	Supporters:
Supporting lecturer	Mahendra Widyartono, S.T., M.T. Reza Rahmadian, S.ST., M.EngSc. Nur Vidia Laksmi B., S.ST, M.Sc.

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	Understand the general description of statistics courses and lecture contracts	1. Explain the material in statistics lectures 2. Explains the introduction to statistics lectures 3. Explain the study contract	**Criteria:** Activeness and mastery of material **Form of Assessment** : Participatory Activities		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		1%
2	Students are able to understand and understand the general description of the introduction to statistics	1. Understand and understand the definition of statistics 2. Understand and understand the basic elements of statistics 3. Understand and understand methods in statistics 4. Understand and understand the types and types of statistical data	**Criteria:** Activeness and mastery of material **Form of Assessment** : Participatory Activities		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		1%
3	Students are able to understand and comprehend the concept of frequency distribution	1. Understand and understand the definition of frequency distribution 2. Understand and understand the terms in frequency distribution 3. Understand and comprehend the preparation of frequency distributions 4. Understand and comprehend histograms and frequency polygons 5. Understand and understand the types of frequency distribution	**Criteria:** Activeness and mastery of material **Form of Assessment** : Participatory Activities		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		2%

4	Students are able to understand and comprehend the concept of frequency distribution	1. Understand and understand the definition of frequency distribution 2. Understand and understand the terms in frequency distribution 3. Understand and comprehend the preparation of frequency distributions 4. Understand and comprehend histograms and frequency polygons 5. Understand and understand the types of frequency distribution	**Criteria:** Activeness and mastery of material **Forms of Assessment** : Participatory Activities, Portfolio Assessment, Practice / Performance		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		12%
5	Students are able to understand and understand the concept of descriptive measurement	1. Understand and understand the definition of descriptive measurement 2. Understand and understand the measure of concentration (central tendency) 3. Understand and understand the size of deviation (central tendency)	**Criteria:** Activeness and mastery of material **Form of Assessment** : Participatory Activities		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		2%

6	Students are able to understand and comprehend the concept of descriptive measurement as well as an introduction to population and samples	1. Understand and understand the definition of descriptive measurement 2. Understand and understand the measure of concentration (central tendency) 3. Understand and understand the size of deviation (central tendency) 4. Understand and understand the introduction of populations and samples 5. Understand and comprehend sampling methods 6. Understand and understand the technique of determining sample size 7. Understand and understand the sampling distribution	**Criteria:** Activeness and mastery of material **Form of Assessment** : Participatory Activities		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		2%
7	Students are able to understand and comprehend the concept of descriptive measurement as well as an introduction to population and samples	1. Understand and understand the introduction of populations and samples 2. Understand and comprehend sampling methods 3. Understand and understand the technique of determining sample size 4. Understand and understand the sampling distribution	**Criteria:** Activeness and mastery of material **Form of Assessment** : Participatory Activities		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		1%

8	Midterm exam		**Criteria:** according to the assessment rubric **Form of Assessment** : Project Results Assessment / Product Assessment	3 X 50			20%
9	Students are able to understand and understand the concepts of opportunity, permutation and combination	Students understand the introduction of sets, experiments, sample spaces, events and probabilities	**Criteria:** according to the assessment rubric **Form of Assessment** : Participatory Activities	written test	1. Lecture 2. Question and Answer 3. Discussion 3 X 50		1%
10	Understand parametric associative hypothesis testing	1. Explains the introduction of data, statistics and statistics 2. Explains how data is collected 3. Explain the stages of statistical activities 4. Explains statistical measures 5. explains the types of hypotheses	**Criteria:** Activeness and mastery of material **Form of Assessment** : Participatory Activities	3 X 50	1. Lecture 2. Question and Answer 3. Discussion 3 X 50		1%
11	Understand hypothesis testing	1. Explains two-way and one-way hypothesis testing 2. Explain the steps for hypothesis testing 3. Explain tests for proportions	**Criteria:** Activeness and mastery of material **Form of Assessment** : Participatory Activities		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		2%
12	Understand non-parametric population hypothesis testing	1. Explains the introduction to non-parametric method testing 2. Explains the categories of non-parametric method testing 3. Explain the steps for testing non-parametric methods	**Criteria:** Activeness and mastery of material **Form of Assessment** : Portfolio Assessment		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		10%
13	Understand simple linear regression analysis	1. Explains the introduction to regression and correlation 2. Explain the procedures in regression analysis 3. Explains simple linear regression modeling	**Criteria:** Activeness and mastery of material **Form of Assessment** : Participatory Activities		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		1%

14	Understand multiple linear regression	1. Explains the introduction to multiple linear regression 2. Explains multiple linear regression modeling 3. Explain the steps of multiple linear regression	**Criteria:** Activeness and mastery of material **Form of Assessment** : Portfolio Assessment, Test		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		8%
15	Understand validity and reliability	1. Explains an introduction to validity and reliability 2. Explains validity and reliability testing	**Criteria:** Activeness and mastery of material **Form of Assessment** : Portfolio Assessment, Test		1. Lecture 2. Question and Answer 3. Discussion 3 X 50		6%
16	FINAL EXAMS		**Form of Assessment** : Project Results Assessment / Product Assessment				30%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	18%
2.	Project Results Assessment / Product Assessment	50%
3.	Portfolio Assessment	21%
4.	Practice / Performance	4%
5.	Test	7%
		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.