



Universitas Negeri Surabaya
Faculty of Engineering,
Mechanical Engineering Undergraduate Study Program

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date																																	
Statistics	2120102112		T=2 P=0 ECTS=3.18	5	July 16, 2024																																	
AUTHORIZATION	SP Developer		Course Cluster Coordinator		Study Program Coordinator																																	
		Ir. Priyo Heru Adiwibowo, S.T., M.T.																																	
Learning model	Project Based Learning																																					
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																					
	Program Objectives (PO)																																					
	PLO-PO Matrix																																					
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 50px; height: 20px;">P.O</td> </tr> </table>					P.O																															
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	PO Matrix at the end of each learning stage (Sub-PO)																																					
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td rowspan="2" style="width: 50px; height: 20px;">P.O</td> <td colspan="16" style="text-align: center;">Week</td> </tr> <tr> <td style="width: 20px;">1</td> <td style="width: 20px;">2</td> <td style="width: 20px;">3</td> <td style="width: 20px;">4</td> <td style="width: 20px;">5</td> <td style="width: 20px;">6</td> <td style="width: 20px;">7</td> <td style="width: 20px;">8</td> <td style="width: 20px;">9</td> <td style="width: 20px;">10</td> <td style="width: 20px;">11</td> <td style="width: 20px;">12</td> <td style="width: 20px;">13</td> <td style="width: 20px;">14</td> <td style="width: 20px;">15</td> <td style="width: 20px;">16</td> </tr> </table>					P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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, central symptom size, standard deviation, normal curve, chi square, t test, analysis of variance, correlation, regression, and non-parametric statistics.																																					
References	Main :																																					
	1. Sudjana.1980. Metoda statistika . Bandung:Tarsito.Hadi,Sutrisno. 1980. Statistik I, II, III .Yogyakarta: Fakultas Psikologi UGM. Moedjiarto.1996. Uji Hipotesis . Surabaya:Unipress IKIP Surabaya.																																					
	Supporters:																																					
Supporting lecturer	Bellina Yunitasari, S.Si., M.Si. Hanna Zakiyya, 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	Understand the general overview of the Statistics lecture	1.Explaining the study of statistics lectures 2.Explain the meaning of statistics 3.Explain the role of statistics in research	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%																															

2	Understand descriptive statistics	<ol style="list-style-type: none"> 1.Explain the meaning of descriptive statistics 2.Know and carry out several ways of presenting data, including presenting data tables, frequency distribution tables, graphs, pie charts, pictograms 3.Explain and measure good central symptoms: mode, median, mean, 4.Explain and measure group variations, both: data range and variance 5.Calculate the mode, median, mean, and standard deviation for grouped data 	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
3	Understand the concept of population, sample, data normality testing	<ol style="list-style-type: none"> 1.Explains the population, sample. And good sampling techniques: probability sampling, nonprobability sampling, 2.Explain an example of determining sample size 3.Explain how to determine sample members 4.Carry out data normalization testing 	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
4	Understand the basic concepts of hypothesis testing	<ol style="list-style-type: none"> 1.Explain the meaning of statistics and research 2.Explain the relationship between statistics and research 3.Explains three forms of hypothesis formulation, both descriptive, comparative and associative hypotheses 4.Explain the meaning of error rate in a hypothesis 5.Explain two errors in hypothesis testing 	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%

5	Understanding one-sample descriptive hypothesis testing (parametric)	<ol style="list-style-type: none"> 1.Explain the meaning of descriptive hypothesis analysis for one sample 2.Carry out descriptive hypothesis testing with one two-party sample test 3.Carrying out descriptive hypothesis testing on one sample, one party test 	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
6	Understanding one-sample descriptive hypothesis testing (nonparametric)	<ol style="list-style-type: none"> 1.Explain the meaning of non-parametric one-sample descriptive hypothesis testing 2.Explain the binomial test 3.Explain and perform the chi Square test 4.Explain and carry out Run Test testing 	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
7	Understand comparative hypothesis testing of two samples	<ol style="list-style-type: none"> 1.Explains comparative hypothesis testing for two samples 2.Carrying out comparative hypothesis testing of two correlated samples 3.Conduct comparative hypothesis testing of k uncorrelated samples 	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
8	Understand k sample hypothesis testing	<ol style="list-style-type: none"> 1.Explains hypothesis testing for k samples 2.Perform hypothesis testing on k correlated samples 3.Carry out hypothesis testing for k uncorrelated samples 	Criteria: according to the assessment rubric	lecturediscussionquestionanswer 3 X 50			0%
9	Understanding descriptive statistics Understanding the concept of population, sample, data normality testing Understanding the basic concept of hypothesis testing Understanding descriptive hypothesis testing one sample (parametric) Understanding descriptive hypothesis testing one sample (nonparametric) Understanding comparative hypothesis testing two samples Understanding k sample hypothesis testing		Criteria: according to the assessment rubric	written test 3 X 50			0%

10	Understand parametric associative hypothesis testing	<ol style="list-style-type: none"> 1.Explain and carry out parametric associative hypothesis testing 2.Explain and conduct Moment Product correlation testing 3.Explain and carry out multiple correlation testing 4.Explain and perform partial testing 	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
11	Understand nonparametric associative hypothesis testing	<ol style="list-style-type: none"> 1.Explaining non-parametric associative statistics 2.Explain and determine the contingency coefficient 3.Explain and determine spearman rank 4.Explain and define Kendal tau 	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
12	Understand simple linear regression analysis	<ol style="list-style-type: none"> 1.Explain the meaning of simple linear regression 2.Mention an example of a simple linear regression calculation 3.Carrying out regression linearity tests 4.Calculate the prices of a and b 5.Drawing up a regression equation 6.Create a regression line 	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
13	Understand multiple regression analysis	<ol style="list-style-type: none"> 1.Explains multiple regression analysis for two predictors 2.Explains regression analysis of three predictors 3.Explains multiple regression and correlation analysis with 4 predictors 	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
14	Understand validity testing	<ol style="list-style-type: none"> 1.Explain the meaning of instrument validity testing 2.Explain construct validity testing 3.Explain content validity testing 4.Explain external validity testing 	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%

15	Understanding instrument reliability testing	1.Explain instrument reliability testing 2.Carrying out test-retest, equivalent, combined and internal consistency testing	Criteria: Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
16							0%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
		0%

Notes

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Forms of assessment:** test and non-test.
- 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.
- 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.
- Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 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%.
- TM=Face to face, PT=Structured assignments, BM=Independent study.