



Universitas Negeri Surabaya
Faculty of Economics and Business
Bachelor of Business Education Study Program

Document
Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date
Research Statistics	8721103079	Compulsory Study Program Subjects	T=3 P=0 ECTS=4.77	4	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
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Learning model	Project Based Learning
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Program Learning Outcomes (PLO)	PLO study program which is charged to the course
Program Objectives (PO)	
PO - 1	Able to master the basic concepts of inferential statistics and calculate inferential statistics using computer software
PO - 2	Able to utilize ICT to search for information. argumentation. and critical studies relating to statistics 2 (Business statistics)
PO - 3	Able to make strategic decisions based on information analysis and statistical output data
PO - 4	Able to have the character of faith, intelligence, independence, honesty, caring and toughness in determining appropriate inferential statistical techniques

PLO-PO Matrix						
	<table border="1" style="margin: auto;"> <tr><td>P.O</td></tr> <tr><td>PO-1</td></tr> <tr><td>PO-2</td></tr> <tr><td>PO-3</td></tr> <tr><td>PO-4</td></tr> </table>	P.O	PO-1	PO-2	PO-3	PO-4
P.O						
PO-1						
PO-2						
PO-3						
PO-4						

PO Matrix at the end of each learning stage (Sub-PO)																																																																																																						
	<table border="1" style="margin: auto;"> <thead> <tr> <th rowspan="2">P.O</th> <th colspan="16">Week</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th> </tr> </thead> <tbody> <tr><td>PO-1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>PO-2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>PO-3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>PO-4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	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																	PO-4																
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Short Course Description	The material for this research II statistics course discusses inferential (inductive) statistics, which is related to Opportunity Theory, Opportunity Distribution, Statistical Estimation, Hypothesis Testing, Chi Square Distribution, F Distribution, Multiple Relationship Analysis (Correlation and Regression), Path Analysis, Diagrams Paths and Structural Equations in Nonparametric Statistics. Lectures are carried out using a system of discussions, project assignments and reflection. Course Description This Course discusses inferential (inductive) statistics, which are related to Probability Theory, Probability Distribution, Statistical Estimation, Hypothesis Testing, Chi Square Distribution, F Distribution, Multiple Relationship Analysis (Correlation and Regression), Path Analysis, Nonparametric Statistical Diagrams Pathways and Structural Equations. Lectures are carried out with a system of discussion, project assignments and reflection.
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References	Main :
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1. David M. Levine, et al. 2012. Basic Business Statistics: Concepts and Application, New Jersey: Pearson Education Inc.
2. Lind, Marchal and Wathen. 2007. Teknik-Teknis Statistika dalam Bisnis dan Ekonomi. McGraw Hill. Dicitakulang oleh Salemba Empat
3. Suharyadi dan Purwanto. 2004. Statistika: untuk Ekonomi dan Keuangan Modern, Salemba Empat.
4. Frederick J. Gravetter dan Larry B. Wallnau. 2014. Pengantar Statistika Sosial, Cengage Learning (diterbitkan kembali oleh Salemba Empat), Jakarta
5. Sugiono. 2010. Statistik untuk Penelitian, Bandung, Alfabeta.
6. Sofyan Yamin dan Heri Kurniawan. 2009. SPSS Complete: Teknik Analisis Statistik Terlengkap dengan Software SPSS, Jakarta
7. Samsubar Saleh. 2004. Statistik Deskriptif, UPP AMP YKPN, Yogyakarta
8. Algifari. 2003. Statistika Induktif untuk Ekonomi dan Bisnis, UPP AMP YKPN, Yogyakarta

Supporters:

Supporting lecturer Dwi Yuli Rakhmawati, S.Si., M.Si., Ph.D.
Angga Martha Mahendra, 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	1.Understand the meaning of statistical inference and hypothesis 2.try it, ma'am	Able to understand inferential statistics and hypotheses	Criteria: 1.The assessment is carried out on the following aspects: 2.Projects Form of Assessment : Project Results Assessment / Product Assessment	Lectures, discussions and questions and answers, 3 X 50 practice questions	Lectures, discussions and questions and answers, 3 X 50 practice questions	Material: 1. Understanding inferential statistics 2. Understanding hypothesis 3. Types of hypothesis testing References: <i>Suharyadi and Purwanto. 2004. Statistics: for Modern Economics and Finance, Salemba Empat.</i>	5%
2	Analyze the data with the chi square test	Able to test the relationship between two nominal/ordinal variables using chi square. Able to test normality using chi square	Criteria: 1.The assessment is carried out on the following aspects: 2.Projects Form of Assessment : Project Results Assessment / Product Assessment	Read literature and listen to explanations, peer discussions, and work on 3 X 50 questions	Read literature and listen to explanations, peer discussions, and work on 3 X 50 questions	Material: 1. Chi Square test for one sample 2. Chi Square test for two samples Library: <i>Suharyadi and Purwanto. 2004. Statistics: for Modern Economics and Finance, Salemba Empat.</i>	4%
3	Analyze the data with the chi square test	Able to test the relationship between two nominal/ordinal variables with chi square; Able to test normality using chi square	Criteria: 1.The assessment is carried out on the following aspects: 2.Projects Form of Assessment : Project Results Assessment / Product Assessment	Read literature and listen to explanations, peer discussions, and work on 3 X 50 questions	Read literature and listen to explanations, peer discussions, and work on questions	Material: 1. Chi Square test for one sample 2. Chi Square test for two samples Library: <i>Suharyadi and Purwanto. 2004. Statistics: for Modern Economics and Finance, Salemba Empat.</i>	3%
4	Analyze the data with the chi square test	Able to test the relationship between two nominal/ordinal variables using chi square. Able to test normality using chi square	Criteria: 1.The assessment is carried out on the following aspects: 2.Projects Form of Assessment : Project Results Assessment / Product Assessment	Read literature and listen to explanations, peer discussions, and work on 3 X 50 questions	Read literature and listen to explanations, peer discussions, and work on 3 X 50 questions	Material: 1. Chi Square test for one sample 2. Chi Square test for two samples Library: <i>Suharyadi and Purwanto. 2004. Statistics: for Modern Economics and Finance, Salemba Empat.</i>	3%

5	Analyze the data with the chi square test	Able to test the relationship between two nominal/ordinal variables using chi square. Able to test normality using chi square	<p>Criteria:</p> <ol style="list-style-type: none"> 1.The assessment is carried out on the following aspects: 2.Projects <p>Form of Assessment :</p> <p>Project Results Assessment / Product Assessment</p>	Read literature and listen to explanations, peer discussions, and work on 3 X 50 questions	Read literature and listen to explanations, peer discussions, and work on 3 X 50 questions	<p>Material: 1. Chi Square test for one sample 2. Chi Square test for two samples</p> <p>Library: <i>Suharyadi and Purwanto. 2004. Statistics: for Modern Economics and Finance, Salemba Empat.</i></p>	3%
6	Analyze data with Variance Analysis	Able to calculate and analyze one-way ANOVA. Able to calculate and analyze two-way ANOVA	<p>Criteria:</p> <ol style="list-style-type: none"> 1.The assessment is carried out on the following aspects: 2.Projects <p>Form of Assessment :</p> <p>Project Results Assessment / Product Assessment</p>	Lectures, discussions and questions and answers 3 X 50	Lectures, discussions and questions and answers 3 X 50	<p>Material: 1. One Way Anova 2. Anova Assumptions 3. Two Way Anova Reference : <i>Sugiono. 2010. Statistics for Research, Bandung, Alfabeta.</i></p>	3%
7	Analyze data with Variance Analysis	Able to calculate and analyze one-way ANOVA. Able to calculate and analyze two-way ANOVA	<p>Criteria:</p> <ol style="list-style-type: none"> 1.The assessment is carried out on the following aspects: 2.Projects <p>Form of Assessment :</p> <p>Project Results Assessment / Product Assessment</p>	Lectures, discussions and questions and answers 3 X 50	Lectures, discussions and questions and answers 3 X 50	<p>Material: 1. One Way Anova 2. Anova Assumptions 3. Two Way Anova Reference : <i>Sugiono. 2010. Statistics for Research, Bandung, Alfabeta.</i></p>	3%
8	Midterm Exam	Exam Papers	<p>Criteria:</p> <p>Midterm Exam</p> <p>Form of Assessment :</p> <p>Test</p>	Exam Paper 100	Exam Paper 100	<p>Material: 1. Product moment correlation 2. Partial correlation 3. Multiple correlation</p> <p>References: <i>Suharyadi and Purwanto. 2004. Statistics: for Modern Economics and Finance, Salemba Empat.</i></p>	20%

9	Analyze several types of correlation	Able to calculate and analyze product moment correlations. Able to calculate and analyze partial correlations. Able to calculate and analyze multiple correlations	<p>Criteria:</p> <ol style="list-style-type: none"> The assessment is carried out on the following aspects: <ol style="list-style-type: none"> Participation during lectures must take at least 75% of the lectures (weight 2) UTS, carried out once every mid-semester and given a weight of 2. The assignment assessment is given a weight of 3 The final NA assessment is given a weight of 3. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	Lectures, discussions and questions and answers 3 X 50	Lectures, discussions and questions and answers 3 X 50	<p>Material: 1. Product moment correlation 2. Partial correlation 3. Multiple correlation</p> <p>Reference: <i>Sugiono. 2010. Statistics for Research, Bandung, Alfabeta.</i></p>	3%
10	Analyzing linear regression	Able to calculate and analyze simple linear regression. Able to calculate and analyze multiple linear regression. Able to understand classical assumption tests	<p>Criteria:</p> <ol style="list-style-type: none"> The assessment is carried out on the following aspects: <ol style="list-style-type: none"> Projects <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	Lectures, discussions and questions and answers 3 X 50	Lectures, discussions and questions and answers 3 X 50	<p>Material: 1. Simple regression 2. Multiple regression</p> <p>References: <i>Suharyadi and Purwanto. 2004. Statistics: for Modern Economics and Finance, Salemba Empat.</i></p>	2%
11	Analyzing linear regression	Able to calculate and analyze simple linear regression. Able to calculate and analyze multiple linear regression. Able to understand classical assumption tests	<p>Criteria:</p> <ol style="list-style-type: none"> The assessment is carried out on the following aspects: <ol style="list-style-type: none"> Projects <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	Lectures, discussions and questions and answers 3 X 50	Lectures, discussions and questions and answers 3 X 50	<p>Material: 1. Simple regression 2. Multiple regression</p> <p>References: <i>Suharyadi and Purwanto. 2004. Statistics: for Modern Economics and Finance, Salemba Empat.</i></p>	3%
12	Analyzing descriptive statistics using SPSS	Understand data input using SPSS. Able to analyze descriptive statistics using SPSS	<p>Criteria:</p> <ol style="list-style-type: none"> The assessment is carried out on the following aspects: <ol style="list-style-type: none"> Projects <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	Lectures, discussions and questions and answers 3 X 50	Lectures, discussions and questions and answers 3 X 50	<p>Material: 1. Autocorrelation test 2. Multicollinearity test 3. Heteroscedasticity test 4. Normality test 5. Linearity test</p> <p>References:</p>	3%

13	Analyzing difference tests	Able to analyze different tests (t test); Able to analyze ANOVA	<p>Criteria:</p> <p>1.The assessment is carried out on the following aspects:</p> <p>2.Projects</p> <p>Form of Assessment :</p> <p>Project Results Assessment / Product Assessment</p>	Lectures, discussions and questions and answers 3 X 50	Lectures, discussions and questions and answers 3 X 50	<p>Material: 1. Hypothesis testing practice 2. Chi square test practice 3. Difference test practice (t test) 4. ANOVA practice 5. Correlation practice 6. Regression practice 7. Classical assumption testing practice</p> <p>References:</p> <p>-----</p> <p>Material: 1. Hypothesis testing practice 2. Chi square test practice 3. Difference test practice (t test) 4. ANOVA practice 5. Correlation practice 6. Regression practice 7. Classic assumption testing practice</p> <p>Reader: <i>Sugiono. 2010. Statistics for Research, Bandung, Alfabeta.</i></p>	5%
14	Analyzing difference tests	Able to analyze different tests (t test); Able to analyze ANOVA	<p>Criteria:</p> <p>1.The assessment is carried out on the following aspects:</p> <p>2.Projects</p> <p>Form of Assessment :</p> <p>Project Results Assessment / Product Assessment</p>	Lectures, discussions and questions and answers 3 X 50	Lectures, discussions and questions and answers 3 X 50	<p>Material: 1. Hypothesis testing practice 2. Chi square test practice 3. Difference test practice (t test) 4. ANOVA practice 5. Correlation practice 6. Regression practice 7. Classic assumption testing practice</p> <p>Reader: <i>Sugiono. 2010. Statistics for Research, Bandung, Alfabeta.</i></p>	5%
15	Analyzing different tests using SPSS	Able to analyze difference tests (t test) using SPSS Able to analyze ANOVA using SPSS	<p>Criteria:</p> <p>1.The assessment is carried out on the following aspects:</p> <p>2.Projects</p> <p>Form of Assessment :</p> <p>Project Results Assessment / Product Assessment</p>	Lectures, discussions and questions and answers 3 X 50	Lectures, discussions and questions and answers 3 X 50	<p>Material: 1. Hypothesis testing practice 2. Chi square test practice 3. Difference test practice (t test) 4. ANOVA practice 5. Correlation practice 6. Regression practice 7. Classic assumption testing practice</p> <p>Reader: <i>Sugiono. 2010. Statistics for Research, Bandung, Alfabeta.</i></p>	5%
16	Final Exam	Final Exam	<p>Criteria:</p> <p>Final Exam</p> <p>Form of Assessment :</p> <p>Test</p>	Exam Paper 100	Exam 100	<p>Material: Final Exam</p> <p>Reference: <i>David M. Levine, et al. 2012. Basic Business Statistics: Concepts and Application, New Jersey: PearsonEducation Inc.</i></p>	30%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
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1.	Project Results Assessment / Product Assessment	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.