	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
Research methodology	8320703054		T=3	P=0	ECTS=4.77	5	July 17, 2024

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

Learning model	**Project Based Learning**

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	Examining the principles and procedures of quantitative, qualitative research, and research and development methods as an introduction to writing a thesis. Topics discussed include basic understanding of research, selection and formulation of problems, literature search, hypothesis formulation, sample population, variables and measurements, types of research, data collection techniques and data analysis techniques, as well as writing research reports. At the end of the lecture, students are expected to prepare a thesis research proposal.

References

Main :

1. Fraenkel, J.R. & Norman, E.W. (2009). How to design and evaluate research in education (7th Ed.) . New York: McGraw-Hill. Gay, L. R.; Mills, G.E.; & Airasian, P.W. (2012). Educational research: competencies for analysis and application (10th Ed.) . Boston: Pearson. Kothari, C.R. (2004). Research methodology: methods and techniques (2nd Ed.). New Delhi: New Age International Publishers.

Supporters:

Supporting lecturer	Dr. Yeni Anistyasari, S.Pd., M.Kom.

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 meaning of research	- Explain the meaning of the word research. - Mention the research steps. Mention the types of research.		Lectures, discussions, presentations 3 X 50			0%
2	- Identifying problems, objectives and benefits of research. Review literature relevant to research	- Identifying the title and research problem - Identifying differences in research objectives and benefits. Making a literature review that is relevant to the research.		Lectures, discussions, presentations 3 X 50			0%
3	Understand the role of hypotheses in research	- Explain the meaning of the hypothesis. - Make a hypothesis		Lectures, discussions, presentations 3 X 50			0%
4	- Analyze the differences between samples and populations. - Understand experimental methods.	- Identify types of samples and populations - Explain the basic assumptions of experiments. - Explain the steps of the experimental method.		Lectures, discussions, presentations 3 X 50			0%
5	Develop research instruments	- Create a questionnaire instrument - Create a rating scale instrument		Lectures, discussions, presentations 3 X 50			0%
6	Analyze data descriptively	- Distinguish between categorical and quantitative data. - Calculate mean, median and mode. - Calculate standard deviation.		Lectures, discussions, presentations 3 X 50			0%
7	Understanding correlation research	- Explain correlation research. - Distinguish between predictor and criterion variables. - Explain the prediction equation		Lectures, discussions, practicum 3 X 50			0%
8	UTS			3 X 50			0%
9	Testing hypotheses	Describe: - Standard error - Hypothesis testing - One tailed and two tailed tests		Lectures, discussions, presentations 3 X 50			0%
10	Understand test requirements analysis	- Testing the homogeneity assumption. - Testing normality assumptions.		Lectures, discussions, practicum 3 X 50			0%
11	Testing t	- Independent sample t test. - Test paired samples t		Lectures, discussions, practicum 3 X 50			0%

12	Understanding Anova	Analyzing data using one-way and two-way anova		Lectures, discussions, practicum 3 X 50			0%
13	Understanding multivariate	Analyze data using simple and multiple regression		Lectures, discussions, practicum 3 X 50			0%
14	Understanding Chi-Square	- Test independence and homogeneity. - Testing single variance.		Lectures, discussions, practicum 3 X 50			0%
15	Understand non-parametric analysis	- Explain the advantages and disadvantages of non-parameteric analysis. - Analyze data using rank-sum test.		Lectures, discussions, practicum 3 X 50			0%
16	Develop independent research proposals	- Develop proposals according to the agreed problems - Present proposals		Lectures, discussions, presentations 3 X 50			0%

Evaluation Percentage Recap: Project Based Learning

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** 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.