	Universitas Negeri Surabaya Faculty of Education, Bachelor of Primary School Teacher Education Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Numbers and Data Processing	8620602194		T=2	P=0	ECTS=3.18	1	July 16, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Putri Rachmadyanti, S.Pd., M.Pd.

Learning model	**Project Based Learning**
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	This course provides knowledge about set theory, introduction to mathematical logic, basic number concepts and basic theory of data processing. The learning process includes activities, providing information, group work, presentations, and individual assignments. Evaluation of learning outcomes includes mid-semester exams, final semester exams, independent assignments, group assignments and class activities.
References	**Main :**

1. Bobrow, Jerry. 2003. Aljabar I. Bandung: Pakar Raya.
2. Amin, Siti M. 2001. Model Deduktif. Surabaya: Unipress Unesa.
3. Soemiadji. 1998. Model Induktif. Surabaya: Unipress Unesa.
4. Sukirman. 1997. Ilmu Bilangan. Universitas Terbuka.
5. Hudoyo, Herman. 1996. Matematika. Jakarta: Depdikbud.
6. Kohn, Edward & Herzog, David Alan. 2004. Ketrampilan Aljabar II. Bandung: Pakar Raya.
7. Keddy, Maryin. 1986. Algebra. Canada: Addeson-Wesley Publishing Company, Inc.

Supporters:	
Supporting lecturer	Drs. H. Budiyono, S.Pd., M.Pd. Dr. Wiryanto, M.Si. Neni Mariana, S.Pd., M.Sc., Ph.D. Ika Rahmawati, S.Si., M.Pd. Delia Indrawati, 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	Mastering mathematical logic concepts	1. Determine the solution steps in mathematical logic problems. 2. Determine the conclusion from the results of the relationship between the premises.	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
2	Mastering the concept of sets and set relations	1. define the empty set and the universal set. 2. express a set in various forms. 3. states the number of members of a set. 4. master set relation theory. 5. master set operations. 6. depict the set in the form of a Venn diagram	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
3	Mastering the concept of the number base of the Roman numeration system and place value	1. Master the application of number bases currently used. 2. explain the numeration system in mathematics. 3. master the concept and use of Roman numbers. 4. Determine place value	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
4	Mastering the concept of exponent numbers	1. describe the concept of exponent numbers 2. prove the properties of exponent numbers 3. describe the properties of operations for calculating exponent numbers. 4. Determine how to find the roots of exponent numbers	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
5	Mastering the concept of natural and whole numbers as well as arithmetic operations.	1. Explain the definition of natural numbers and whole numbers. 2. explain the properties of whole number operations.	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
6	Mastering the concept of integers and arithmetic operations	1. explain the definition of integers. 2. explain the properties of integer operations.	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
7	Mastering the concept of divisible by prime and composite numbers	1. Explain the concept of divisible and its characteristics. 2. Distinguish between prime and composite numbers.	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%

8	Students are able to achieve half of the required course achievements	1. Mastering mathematical logic concepts 2. Mastering the concept of sets and set relations 3. Mastering the concept of the number base of the Roman numeration system and place value 4. Mastering the concept of square numbers and cubic numbers 5. Mastering the concept of natural and whole numbers as well as arithmetic operations. 6. Mastering the concept of integers and arithmetic operations 7. Mastering the concept of divisible by prime and composite numbers	**Criteria:** Maximum Score 100	Sub Summative Exam 3 X 50			0%
9	Mastering the concepts of KPK and FPB	1. Explain how to determine FPB & KPK. 2. Create story questions related to FPB and KPK.	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
10	Mastering the real number system	1. Define the meaning of real numbers2. Define the meaning of rational numbers 3. Define the meaning of irrational numbers 3. Solving rational and irrational number problems	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
11	Mastering Data concepts	1. Define the meaning of data. 2. State the types of data. 3. State how to obtain data.	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
12	Mastering the concept of Data Presentation	Can present data in the form of: 1. Table 2. Diagram3. Description	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%

13	Mastering the concept of measures of central tendency	1. Determine the mean of single data. 2. Determine the mean of group data	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
14	Mastering the concept of measures of central tendency	1. Determine the median of single data2. Determine the median of group data	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
15	Mastering the concept of measures of central tendency	1. Determine single data mode2. Specifies the Group data mode	**Criteria:** Activeness and mastery of material	1. Lecture 2. Question and Answer 3. Discussion 3 X 50			0%
16			**Form of Assessment** : Test		Online UAS implementation takes 100 minutes		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** 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.