	Universitas Negeri Surabaya Faculty of Mathematics and Natural Sciences, Mathematics Education Masters Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
School Mathematics and Its Teaching (School Mathematics and Its Teaching)	8410202151		T=2	P=0	ECTS=4.48	1	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Dr. Agung Lukito, M.S.

Learning model	**Case Studies**	
Program Learning Outcomes (PLO)	**PLO study program that is charged to the course**	
	PLO-6	Able to design, implement, and evaluate an effective and innovative mathematics instruction
	PLO-9	Able to demonstrate mathematics pedagogical content knowledge and understanding
	PLO-11	Collaborate and be responsible professionally and ethically in completing mathematics and mathematics education tasks
	Program Objectives (PO)	
	PLO-PO Matrix	

P.O	PLO-6	PLO-9	PLO-11

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 students with insight and knowledge about school mathematics and its teaching. The material coverage includes basic mathematics at secondary school level, including vocational ones, especially in learning that develops conceptual understanding, problem solving, communication and reasoning, including critical and creative thinking. The assessment is carried out by involving student activity through assignment presentations and in-depth discussions of the main material as well as reflection.
References	**Main :**
	1. [1] Goos, M., Stillman, G., & Vale, C. 2007. Teaching Secondary School Mathematics: Research and Practice for the 21st Century. Crows Nest, NSW: Allen & Unwin [2] Mason, J., Burton, L., & Stacey, K. 1996. Thinking Mathematically. Harlow: Addison-Wesley[3] Neill, H. & Quadling, D. 2002. Advanced Level Mathematics: Pure Mathematics 1. Cambridge: Cambridge University Press[4] Neill, Hugh & Quadling, Douglas. 2002. Advanced Level Mathematics: Pure Mathematics 2 & 3. Cambridge: Cambridge University Press.
	Supporters:
Supporting lecturer	Dr. Hj. Masriyah, 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	Understanding the characteristics of school mathematics	Explain the characteristics of school mathematics	**Criteria:** Benchmark Assessment	School Mathematics 2 X 50			0%
2	Understand functions and graphs of functions, and be skilled at teaching them.	Describe, present and solve problems related to functions and their graphs.	**Criteria:** Questions about Function	Presentation, Discussion and reflection 2 X 50			0%
3	Understand inverse functions, and be skilled at teaching them...	Describe, present and solve problems related to Inverse Functions	**Criteria:** Questions about Inverse Functions	Presentation and discussion 2 X 50			0%
4	Understand quadratic functions, and be skilled	Describe, present, and solve problems related to Quadratic Functions.	**Criteria:** SIR	Presentation, discussion, reflection 2 X 50			0%
5	Understand inequalities and sequences, and be skilled	Describe and solve problems related to Inequalities and Sequences	**Criteria:** SIR	Presentation, discussion, reflection 2 X 50			0%
6	Understand derivatives and their applications, and be skilled at teaching them.	Describe and solve problems related to Derivatives and their Applications.	**Criteria:** SIR	Presentation and discussion 2 X 50			0%
7	Understand Trigonometry, and be skilled at teaching it	Describe and solve problems related to Trigonometry	**Criteria:** SIR	Presentation, discussion, reflection 2 X 50			0%
8	Understand Vector concepts, and be skilled at teaching them.	Describe and solve problems related to vectors.	**Criteria:** SIR	Presentation, discussion, problem solving 2 X 50			0%
9	Understand the concept of second derivatives, and be skilled at teaching them.	Describe and solve problems related to second derivatives.	**Criteria:** SIR	Presentation and discussion 2 X 50			0%
10	Describe and solve problems related to Integrals and their Use.	Describe and solve problems related to Integrals and their Use.	**Criteria:** SIR	Presentation, discussion, reflection 2 X 50			0%
11	Understand the concept of Modulus Function, and be skilled at teaching it	Describe and solve problems related to Modulus Functions	**Criteria:** SIR	Presentation, discussion, reflection 2 X 50			0%
12	Understand the concept of Exponential Functions, and be skilled at teaching them.	Describe and solve problems related to Exponential Functions	**Criteria:** SIR	Presentation, discussion, reflection 2 X 50			0%
13	Understand the concept of Exponential Functions, and be skilled at teaching them	Describe and solve problems related to Exponential Functions	**Criteria:** SIR	Presentation, discussion, reflection 2 X 50			0%
14	Understand the concept of Logarithmic Functions, and be skilled at teaching them.	Describe and solve problems related to Logarithmic Functions	**Criteria:** SIR	Presentation, discussion, reflection 2 X 50			0%

15	Understand the concept of Exponential Second Derivatives and Logarithms, and be skilled at teaching them.	Describe and solve problems related to Exponential and Logarithmic Second Derivatives	**Criteria:** SIR	Presentation, discussion, reflection 2 X 50			0%
16							0%

Evaluation Percentage Recap: Case Study

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.