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

SEMESTER LEARNING PLAN

Courses		CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Mathematics Learning Innovation (Innovation of Mathematics Learning)		8410202141		**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	**Project Based Learning**																	
Program Learning Outcomes (PLO)	**PLO study program which 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, knowledge and skills in developing innovations in mathematics learning. The material coverage includes basic concepts of innovation, history of innovation in mathematics learning, approaches/models/strategies/methods for learning mathematics and levels of innovation, media and multimedia for mathematics learning, searching for examples of innovation in mathematics learning, the process of adapting innovation, and creating innovation. Learning in this course is presented through literature study activities, searching for examples of innovation on the internet and in the field as well as innovation development projects at the desired level.

References	**Main :**
	1. Adams, Dennis., Hamm, Marry. (2010). Demystify math, science, and technology : creativity, innovation, and problem S olving . Lanham: Rowman & Littlefield. 2. Greene, Leonard M. (2001). Intership: The Art of Innovation. New York: John Wiley & Sons. 3. Siswono, Tatag Y.E. (2018). Pembelajaran Matematika Berbasis Pengajuan Masalah: Fokus Pada Berpikir Kritis dan Berpikir Kreatif. Bandung: Rosdakarya. 4. Vincent-Lancrin, Stéphan., Urgel, Joaquin., Kar, Soumyajit., and Jacotin, Gwénaël. (2019), Measuring Innovation in Education 2019: What Has Changed in the Classroom?, Educational Research and Innovation, Paris: OECD Publishing. https://doi.org/10.1787/9789264311671-en
	Supporters:

Supporting lecturer	Dr. Susanah, 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	Understand the concept of learning innovation in the 21st century.	Identify and give examples of learning innovations in the 21st century.		Discussion and assignment 2 X 50			0%
2	Understand the concept of learning innovation in the 21st century.	Identify and give examples of learning innovations in the 21st century.		Discussion and assignment 2 X 50			0%
3	Understand the application of information technology and multimedia in mathematics learning.	Give examples of the application of information technology and multimedia in mathematics learning.		Discussion, assignment and presentation 2 X 50			0%
4	Understand the application of information technology and multimedia in mathematics learning.	Give examples of the application of information technology and multimedia in mathematics learning.		Discussion, assignment and presentation 2 X 50			0%
5	Presentation of concepts/ideas for mathematics learning innovation design (Individual)	Choose ideas/topics for mathematics learning innovation		Discussion and presentation 2 X 50			0%
6	Presentation of concepts/ideas for mathematics learning innovation design (Individual)	Choose ideas/topics for mathematics learning innovation		Discussion and presentation 2 X 50			0%
7	Workshop on developing innovations in mathematics learning	Determining and designing mathematics learning innovations		2 X 50			0%
8	UTS			2 X 50			0%
9	Presentation of mathematics learning innovation design (Individual).	Presentation of selected mathematics learning innovation plans		2 X 50			0%
10	Presentation of mathematics learning innovation design (Individual).	Presentation of selected mathematics learning innovation plans		2 X 50			0%
11	Presentation of mathematics learning innovation design (Individual).	Presentation of selected mathematics learning innovation plans		2 X 50			0%

12	Presentation of mathematics learning innovation design (Individual).	Presentation of selected mathematics learning innovation plans		2 X 50			0%
13	Presentation of the final report on the results of designing mathematics learning innovations	Simulation of the application of mathematics learning innovations to certain materials.		Assignments, presentations and discussions 2 X 50			0%
14	Presentation of the final report on the results of designing mathematics learning innovations	Simulation of the application of mathematics learning innovations to certain materials.		Assignments, presentations and discussions 2 X 50			0%
15	Presentation of the final report on the results of designing mathematics learning innovations	Simulation of the application of mathematics learning innovations to certain materials.		Assignments, presentations and discussions 2 X 50			0%
16							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.