	Universitas Negeri Surabaya **Faculty of Mathematics and Natural Sciences** **Biology Education Undergraduate Study Program**	**Document Code**

SEMESTER LEARNING PLAN

Courses		CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Basic mathematic		8420503150		T=3	P=0	ECTS=4.77	1	July 17, 2024

AUTHORIZATION		SP Developer		Course Cluster Coordinator	Study Program Coordinator
		....		....	Dr. Rinie Pratiwi Puspitawati, M.Si.

Learning model	**Case Studies**

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	Examines equations and inequalities, function concepts, probability theory, matrices, limits, differentials, integrals and their applications.

References	Main :	
	1. Stewart, J. 2012. Calculus 7th Edition . Belmont: Brooks/ColeThomas Jr., G., et. al. 2010. Thomas 19 Calculus 12th Edition . Boston: Addison-WesleyPurcell, E. J. et al 2010. Kalkulus Jilid 1 Edisi Kedelapan (Terjemahan) . Jakarta: ErlanggaAbadi, & Wintarti, A. 2014 (in press). Kalkulus, Buku 1 . Surabaya [Moesono, D. 1994. Kalkulus I (Edisi Revisi) . Surabaya: University Press Surabaya.	
	Supporters:	

Supporting lecturer	Dr. Rini Setianingsih, M.Kes. Shofan Fiangga, S.Pd., M.Sc. Nina Rinda Prihartiwi, 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	Understand the concept of equality and inequality	Students can determine the sequence of a number line	**Form of Assessment** : Participatory Activities	Expository 2 X 50			0%

2	Understand number series and sigma notation	Expresses a series of numbers in sigma notation	**Form of Assessment** : Participatory Activities	Expository 2 X 50			0%
3	Understand the concept of function	Get permutation and combination values	**Form of Assessment** : Participatory Activities	Expository 2 X 50			0%
4	Understand the basic theory of probability	1. Determining the sample space of an event 2. Determining the probability of an event	**Form of Assessment** : Participatory Activities	Expository			0%
5	Understand the derivatives of algebraic, trigonometric and exponential functions	Determining the derivative of an algebraic function	**Form of Assessment** : Participatory Activities	Expository 3 X 50			0%
6	Understand the derivatives of algebraic, trigonometric and exponential functions	Determine derivatives of trigonometric functions	**Form of Assessment** : Participatory Activities	Expository 2 X 50			0%
7	Understand the derivatives of algebraic, trigonometric and exponential functions	Determine the derivative of the exponential function		Expository			0%
8	UTS			3 X 50			0%
9	Integral	Determining the indefinite integral of a function		Expository 2 X 50			0%
10	Integral	Using substitution integration techniques	**Form of Assessment** : Participatory Activities				0%
11	Integral	Determine the result of a definite integral	**Form of Assessment** : Participatory Activities	Expository 6 X 50			0%
12	Mathematical model through a numerical approach	Determining polynomial functions using Newton interpolation	**Form of Assessment** : Participatory Activities				0%
13	Mathematical model through a numerical approach	Determining polynomial functions using Lagrange interpolation	**Form of Assessment** : Participatory Activities	Expository 2 X 50			0%
14		Determines the results of projecting points on a line					0%
15	Understand projection problems in geometry	Determines the projection results of points on a plane		Expository 2 X 50			0%
16	UAS			2 X 50			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** 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.