	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
Technological Pedagogical Content Knowledge		8420502302	Compulsory Study Program Subjects	**T=2**	**P=0**	**ECTS=3.18**	5	July 17, 2024
AUTHORIZATION		**SP Developer**		**Course Cluster Coordinator**			**Study Program Coordinator**	
		Dr. Raharj, M.Si		Dr. Rinie Pratiwi Puspitawati, M.Si.			Dr. Rinie Pratiwi Puspitawati, M.Si.	

Learning model	Case Studies	
Program Learning Outcomes (PLO)	**PLO study program that is charged to the course**	
	PLO-7	Able to demonstrate knowledge of biology at the molecular, cell and organism levels and their interactions with the environment.
	Program Objectives (PO)	
	PLO-PO Matrix	

P.O	PLO-7

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	The Technological Pedagogical Content Knowledge (TPACK) course discusses the integration of technology in learning by considering teacher knowledge about subject content, learning strategies, and technology. TPACK is a conceptual model that views teacher knowledge as the interaction between these three important elements, and is the critical knowledge needed by teachers to develop appropriate and effective teaching materials. In this course, students will learn the principles of TPACK and how to apply them in a learning context. Students will also practice developing teaching materials that utilize technology that is relevant to the content and learning objectives, as well as taking into account student characteristics and the learning context.

References	Main :	
	1. Cavanaugh, C., & Dawson, K. (2018). Integrating the Technological, Pedagogical, and Content Knowledge (TPACK) Framework into Online Learning Environments: A Literature Review. In Handbook of Research on Learning in the Age of Transhumanism (pp. 283-305). IGI Global. 2. Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2019). TPACK: Past, present, and future. In Handbook of Technological Pedagogical Content Knowledge (TPACK) for Educators (pp. 1-14). Springer, Cham. 3. Wang, M., & Wu, Y. T. (2019). Examining the effects of TPACK-based instructional design on student engagement and learning performance. Interactive Learning Environments, 27(6), 846-859.	
	Supporters:	
	1. Yuen, S. C. Y., & Yuen, A. H. K. (2018). Examining the relationship between TPACK, motivation, and teacher self-efficacy in using technology for teaching. Educational Technology Research and Development, 66(3), 709-725.	

Supporting lecturer	Dr. Raharjo, M.Si. Dr. Rinie Pratiwi Puspitawati, M.Si.

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 and agree to the rights and obligations related to the TPACK course which includes study materials, learning systems, types of assignments and assessment systems	Understand the overview of TPACK lectures	**Criteria:** Attached	Online lectures and discussions via Zoom and discussion forums Method: Collaborative Learning 2 X 50			0%
2	Mastering the understanding of TPACK concepts and principles	· Students are able to explain the meaning of TPACK concepts and principles	**Criteria:** Attached	discussion, lecture 2 X 50			0%
3	Knowing Technological Knowledge (TK) how to use technology as a learning aid	Students are able to apply digital competencies related to the context of biological material	**Criteria:** attached	discussion, lecture 2 X 50			0%
4	Knowing Technological Knowledge (TK) how to use technology as a learning aid	Able to prepare learning materials and e-learning forms	**Criteria:** Attached	Lectures, discussions, 2 X 50			0%
5	Knowing Pedagogy Knowledge, namely how teachers teach learning material, using appropriate and creative models and methods can make the learning process more effective	Understanding the developmental characteristics of students, such as understanding students' cognitive levels according to their age. Understand the principles of student personality development	**Criteria:** attached	lecture, discussion 2 X 50			0%
6	Knowing Pedagogy Knowledge, namely how teachers teach learning material, using appropriate and creative models and methods can make the learning process more effective	Understanding the developmental characteristics of students, such as understanding students' cognitive levels according to their age. Understand the principles of student personality development	**Criteria:** attached	lecture, discussion 2 X 50			0%
7	Knowing Pedagogy Knowledge, namely how teachers teach learning material, using appropriate and creative models and methods can make the learning process more effective	Able to plan the management of teaching and learning activities	**Criteria:** attached	Lectures, discussions 2 X 50			0%
8	UTS	UTS	**Criteria:** Attached	Written test 2 X 50			0%

No							
9	Knowing Content Knowledge, is what will be studied or the substance of the material that will be studied	Students are able to study essential biology material at the high school level	**Criteria:** Attached	Lectures, discussions, mini research 2 X 50			0%
10	Knowing Content Knowledge, is what will be studied or the substance of the material that will be studied	Students are able to study essential biology material at the high school level	**Criteria:** Attached	Lectures, discussions, mini research 2 X 50			0%
11	Being able to apply pedagogical content knowledge in teaching learning material, using appropriate and creative models and methods can make the learning process more effective	Able to design educational and dialogical learning	**Criteria:** attached	lectures, discussions, presentations 2 X 50			0%
12	Being able to apply pedagogical content knowledge in teaching learning material, using appropriate and creative models and methods can make the learning process more effective	Able to design educational and dialogical learning	**Criteria:** attached	lectures, discussions, presentations 2 X 50			0%
13	Able to develop learning device products that apply content pedagogy knowledge (Pedagogy Content Knowledge)	Able to implement TPACK-based biology learning	**Criteria:** attached	lecture, discussion 2 X 50			0%
14	Able to apply Technological Pedagogical Knowledge (TPK) by applying technology that can facilitate effective learning.	Able to design assessments and evaluate TPACK-based biology learning	**Criteria:** Attached	Lecture,. discussion 2 X 50			0%
15	Able to apply Technological Pedagogical Knowledge (TPK) by applying technology that can facilitate effective learning.	Able to design assessments and evaluate TPACK-based biology learning	**Criteria:** Attached	Lecture,. discussion 2 X 50			0%
16							0%

<u>**Evaluation Percentage Recap**</u>**: 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.