	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
Innovative Learning	8420503293	Compulsory Study Program Subjects	T=3	P=0	ECTS=4.77	3	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
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Learning model	**Project Based Learning**

Program Learning Outcomes (PLO)

PLO study program that is charged to the course

PLO-9	Able to design, implement and evaluate biology learning by utilizing ICT

Program Objectives (PO)

PO - 1	Understanding cooperative learning
PO - 2	Understanding 5M learning
PO - 3	Understanding CTL learning
PO - 4	Understanding Discovery/inquiry learning
PO - 5	Understanding PBL learning
PO - 6	Understanding PJBL learning
PO - 7	Understanding TPACK learning

PLO-PO Matrix

P.O	PLO-9
PO-1	
PO-2	
PO-3	
PO-4	
PO-5	
PO-6	
PO-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
PO-1																
PO-2																
PO-3																
PO-4																
PO-5																
PO-6																
PO-7																

Short Course Description	Study of learning models: cooperative (cooperative learning), scientific approach-oriented learning such as: problem-based learning, inquiry-discovery learning and contextual learning as well as project-based learning and Technological Pedagogical Content Knowledge. The assessment is carried out through the presentation of concepts, presentation of operational examples of each learning model in the form of learning tools, workshops on developing learning tools by students oriented towards each learning model and strategy. The assessment activity ends with an exercise in implementing a particular learning model by each student in a peer teaching forum followed by discussion and reflection activities.

References	**Main :**	
	1. Arends, Richard I. 2012. Learning To Teach sixth Edition . New York: McGraw-Hill Book Company. 2. Arends, Richard I. 2004. Guide to Field Experiences and Portofolio Development: to accompany; learning to teach . New York: McGraw-Hill Book Company 3. Ibrahim, Muslimin. 2012. Pembelajaran Berdasarkan Masalah Edisi II. Surabaya: University Press 4. Ibrahim, Muslimin., Rachmadiarti, F., Ismono. 2005. Pembelajaran Kooperatif. Surabaya : Pusat Sains dan Matematika Sekolah. 5. Nur, Mohammad. 2000. Pembelajaran Kooperatif. Surabaya : Pusat Sains dan Matematika Sekolah.	
	Supporters:	
Supporting lecturer	Dr. Wisanti, M.S. Dr. Rinie Pratiwi Puspitawati, M.Si. Prof. Dr. Endang Susantini, M.Pd. Dr. Sifak Indana, M.Pd. Dr. Pramita Yakub, 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	1. Understand the characteristics of cooperative learning and 5M 2. Explain the characteristics of 5M cooperative learning tools 3. Explain the learning steps using cooperative learning and 5M learning	1. Explain the characteristics of cooperative learning and 5M learning 2. Explain the theories that support cooperative learning and 5M learning 3. Explain the characteristics of cooperative devices and 5M Learning 4. Explain the steps of cooperative learning model and 5M Learning	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment, Tests	Presentation and discussion 3 X 50		**Material:** Cooperative learning model and 5M learning **References:** *Ibrahim, Muslimin., Rachmadiarti, F., Ismono. 2005. Cooperative Learning. Surabaya: School Science and Mathematics Center.*	0%

2	Develop cooperative learning tools and 5M Learning for relevant topics	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	workshops 3 X 50		**Material:** Development of cooperative type learning model tools and 5M **Library:** *Ibrahim, Muslimin., Rachmadiarti, F., Ismono. 2005. Cooperative Learning. Surabaya: School Science and Mathematics Center.*	0%

3	Develop cooperative learning tools and 5M Learning for relevant topics	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered as an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	workshops 3 X 50		**Material:** Development of cooperative type learning model tools and 5M **Library:** *Ibrahim, Muslimin., Rachmadiarti, F., Ismono. 2005. Cooperative Learning. Surabaya: School Science and Mathematics Center.*	0%

4	Develop cooperative learning tools and 5M Learning for relevant topics	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	workshops 3 X 50		**Material:** Development of cooperative type learning model tools and 5M **Library:** *Ibrahim, Muslimin., Rachmadiarti, F., Ismono. 2005. Cooperative Learning. Surabaya: School Science and Mathematics Center.*	0%

5	1. Understand the characteristics of CTL and Discovery/inquiry learning 2. Explain the characteristics of CTL and Discovery/inquiry learning tools 3. Explain the learning steps using CTL and Discovery/inquiry learning	1. Explain the characteristics of CTL and discovery/inquiry learning 2. Explain the theories that support CTL learning and discovery/inquiry 3. Explain the characteristics of CTL and Discovery/inquiry tools 4. Explain the steps in learning the CTL and Discovery/inquiry models	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered as an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment, Tests	Presentation, discussion, reflection, modeling and observation 3 X 50		**Material:** CTL and Discovery/inquiry learning models **References:** *Ibrahim, Muslimin., Rachmadiarti, F., Ismono. 2005. Cooperative Learning. Surabaya: School Science and Mathematics Center.* **Material:** CTL learning model **Reference:** *Arends, Richard I. 2012. Learning To Teach sixth Edition. New York: McGraw-Hill Book Company.*	0%

6		Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment, Tests	Workshop 3 X 50		**Material:** CTL and Discovery/inquiry learning models **References:** *Ibrahim, Muslimin., Rachmadiarti, F., Ismono. 2005. Cooperative Learning. Surabaya: School Science and Mathematics Center.* **Material:** CTL learning model **Reference:** *Arends, Richard I. 2012. Learning To Teach sixth Edition. New York: McGraw-Hill Book Company.*	0%

7	Develop CTL and Discovery/inquiry learning tools for relevant topics	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered as an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6.. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment, Tests	Workshop 3 X 50		**Material:** CTL and Discovery/inquiry learning models **References:** *Ibrahim, Muslimin., Rachmadiarti, F., Ismono. 2005. Cooperative Learning. Surabaya: School Science and Mathematics Center.* **Material:** CTL learning model **Reference:** *Arends, Richard I. 2012. Learning To Teach sixth Edition. New York: McGraw-Hill Book Company.*	0%
8	UTS	UTS	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Paper and Pencil test multiple choice and essay	UTS 2 X 50			0%

9	Develop CTL and Discovery/inquiry learning tools for relevant topics	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Workshop 3 X 50		**Material:** CTL and Discovery/inquiry learning models **References:** *Arends, Richard I. 2012. Learning To Teach sixth Edition. New York: McGraw-Hill Book Company.* **Material:** CTL learning model and Discovery/inquiry **References:** *Arends, Richard I. 2004. Guide to Field Experiences and Portfolio Development: to accompany; learning to teach . New York: McGraw-Hill Book Company*	0%

10	1. Understand the characteristics of PBL and PJBL learning 2. Explain the characteristics of PBL and PJBL learning tools 3. Explain the learning steps using PBL and PJBL learning	1. Explain the characteristics of PBL and PJBL learning 2. Explain the theories that support PBL and PJBL learning 3. Explain the characteristics of PBL and PJBL devices 4. Explain the steps for learning the PBL and PJBL models	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Presentation, Discussion and reflection Modeling, observation and reflection 3 X 50		**Material:** PBL and PJBL learning models **Reader:** *Ibrahim, Muslimin. 2012. Problem Based Learning II Edition. Surabaya: University Press*	0%

11	Develop PBL and PJBL learning tools for relevant topics	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered as an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Workshop 3 X 50		**Material:** PBL and PJBL learning models **Reader:** *Ibrahim, Muslimin. 2012. Problem Based Learning II Edition. Surabaya: University Press*	0%

12	Develop PBL and PJBL learning tools for relevant topics	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Workshop 3 X 50		**Material:** PBL and PJBL learning models **Reader:** *Ibrahim, Muslimin. 2012. Problem Based Learning II Edition. Surabaya: University Press*	0%

13	Develop PBL and PJBL learning tools for relevant topics	Being able to make decisions is characterized by skillfully developing tools using various relevant learning sources	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Workshop 3 X 50		**Material:** PBL and PJBL learning models **Reader:** *Ibrahim, Muslimin. 2012. Problem Based Learning II Edition. Surabaya: University Press*	0%

14	1. Understanding learning characteristics (TPACK) 2. Explaining the characteristics of learning devices (TPACK) 3. Explain the steps for learning using learning (TPACK)	1. Explain the characteristics of TPACK learning 2. Explain the theory that supports TPACK Learning 3. Explain the characteristics of TPACK devices 4. Explain the steps for learning the TPACK model 5. Develop TPACK learning tools for relevant topics	**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Presentation, Discussion and reflection Modeling, observation and reflection 3 X 50		**Material:** TPACK Learning Model (technology, pedagogy, and content, knowledge) **References:** *Arends, Richard I. 2012. Learning To Teach sixth Edition. New York: McGraw-Hill Book Company.* **Material:** TPACK Learning Model (technology, pedagogy, and content, knowledge) **References:** *Nur, Mohammad. 2000. Cooperative Learning. Surabaya: School Science and Mathematics Center.*	0%

15			**Criteria:** 1. The assessment is carried out on the following aspects: 2. Participation during lectures and peer teaching is carried out through observation (weight 2). 3. The cumulative test is carried out twice, assessing all relevant indicators through a written exam, averaged and given a weight of 2. 4. Assessment of RPP products and learning tools other than those displayed in peer teaching, is considered an assignment, the scores are averaged, then given a weight (3) 5. 3x Performance Scores during peer teaching plus 2x grades for RPP averaged as UAS scores, given a weight of (3) 6. The final NA is (participation value x2) (assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Presentation, discussion, reflection modeling and observation and reflection 3 X 50		**Material:** TPACK Learning Model (technology, pedagogy, and content, knowledge) **References:** *Arends, Richard I. 2012. Learning To Teach sixth Edition. New York: McGraw-Hill Book Company.* **Material:** TPACK Learning Model (technology, pedagogy, and content, knowledge) **References:** *Nur, Mohammad. 2000. Cooperative Learning. Surabaya: School Science and Mathematics Center.*	0%
16		UAS	**Criteria:** Paper and Pencil test multiple choice and essay	UAS 2 x 50			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** 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.