	Universitas Negeri Surabaya **Faculty of Mathematics and Natural Sciences** **Bachelor of Science Education Study Program**	**Document Code**

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Innovative Learning II	8420103109		T=3	P=0	ECTS=4.77	5	July 18, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Prof. Dr. Erman, M.Pd.

Learning model	**Project Based Learning**	
Program Learning Outcomes (PLO)	**PLO study program that is charged to the course**	
	PLO-5	Demonstrate scientific, critical, and innovative attitudes in integrated science learning, laboratory activities, and professional-related tasks
	PLO-7	Communicate ideas and research results effectively both in oral and written form
	PLO-10	Design, implement, and evaluate science learning using ICT
	PLO-14	Demonstrate pedagogical knowledge of designing, implementing, and evaluating integrated science learning
	Program Objectives (PO)	
	PO - 1	Demonstrate a scientific attitude in designing, implementing and evaluating the implementation of innovative learning
	PO - 2	Explain the characteristics and supporting theories of innovative learning
	PO - 3	Applying pedagogical knowledge in designing, implementing and evaluating the implementation of innovative learning in science learning
	PO - 4	Designing, implementing and evaluating the implementation of innovative learning using ICT in science learning
	PO - 5	Communicate the results of investigations related to innovative learning models
	PLO-PO Matrix	

P.O	PLO-5	PLO-7	PLO-10	PLO-14
PO-1				
PO-2				
PO-3				
PO-4				
PO-5				

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																

Short Course Description	Study of learning models: cooperative learning, scientific approach-oriented learning such as: problem-based learning, inquiry-discovery learning and contextual learning and project-based learning. The study is carried out through concept explanations, 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 study activities end with an exercise in implementing a particular learning model by each student in a peer teaching forum followed by discussion and reflection.	
References	**Main :**	

	1. Arends, Richard I. 2004. 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, Fida, Ismono. 2005. Pembelajaran Kooperatif. Surabaya: Pusat Sains dan Matematika Sekolah. 5. Nur, Mohamad. 2000. Pembelajaran Kooperatif. Surabaya: Pusat Sains dan Matematika Sekolah.
	Supporters:
Supporting lecturer	Dra. Martini, M.Pd. Prof. Dr. Erman, M.Pd. Dr. Dyah Astriani, S.Pd., M.Pd. Tutut Nurita, S.Pd., M.Pd. Laily Rosdiana, S.Pd., M.Pd. An Nuril Maulida Fauziah, S.Pd., M.Pd. Enny Susiyawati, S.Si., M.Sc., M.Pd., Ph.D. Dyah Permata Sari, 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	Able to explain the characteristics and supporting theories of teacher- and student-centered learning based on cases presented in accordance with substantive concepts and based on a scientific attitude	1. Explain the characteristics of teacher-centered learning. 2. Explain the characteristics of student-centered learning. 3. Explain the supporting theories of teacher-centered learning. 4. Explain supporting theories of student-centered learning.	**Criteria:** Use an assessment rubric **Form of Assessment** : Test	discussion and questions and answers 3 X 50		**Material:** Teacher and student centered learning **Reference:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.* **Material:** Learning strategies **References:** *Nur, Mohamad. 2000. Learning Strategies. Surabaya: School Science and Mathematics Center.*	4%
2	Able to explain the characteristics and supporting theories of the inquiry-discovery learning model in science learning	1. Explain the characteristics of the inquiry learning model 2. Explain the characteristics of the discovery learning model 3. Explain the theory supporting the inquiry-discovery learning model	**Criteria:** Use an assessment rubric **Form of Assessment** : Participatory Activities	Presentation, Discussion 3 X 50		**Material:** Inquiry and Discovery Learning Model **Bibliography:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.* **Material:** Constructivist learning theory **References:** *Woolfolk, A. (2020). Educational psychology: Active learning edition (14thed.).New York: Pearson.*	4%

3	Able to apply the characteristics of the inquiry-discovery learning model in learning design using a scientific attitude either individually or in groups	Designing learning using the inquiry-discovery learning model	**Criteria:** Use an assessment rubric **Form of Assessment** : Project Results Assessment / Product Assessment	Discussion, observation, workshop 3 X 50		**Material:** Inquiry and Discovery Learning Model **Bibliography:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.* **Material:** Constructivist learning theory **References:** *Woolfolk, A. (2020). Educational psychology: Active learning edition (14thed.).New York: Pearson.*	8%
4	Able to explain the characteristics and supporting theories of the cooperative learning model	1. Explain the characteristics of the cooperative learning model 2. Explain the theory supporting the cooperative learning model 3. Identify the types of learning that are classified as cooperative learning	**Criteria:** Use an assessment rubric **Form of Assessment** : Participatory Activities, Practice/Performance	Presentation and Discussion 3 X 50		**Material:** Cooperative Learning Model **Reference:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.* **Material:** Constructivist social learning theory **References:** *Woolfolk, A. (2020). Educational psychology: Active learning edition (14thed.).New York: Pearson.*	4%

5	Able to apply the characteristics of the cooperative learning model in learning design using a scientific attitude either individually or in groups	Designing learning using cooperative learning models	**Criteria:** Use an assessment rubric **Form of Assessment** : Project Results Assessment / Product Assessment	Discussion, observation, workshop 3 X 50		**Material:** Cooperative Learning Model **Reference:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.* **Material:** Constructivist social learning theory **References:** *Woolfolk, A. (2020). Educational psychology: Active learning edition (14thed.).New York: Pearson.*	8%
6	Able to explain the characteristics and supporting theories of the PBL-PjBL learning model	1. Explain the characteristics of the PBL-PjBL learning model 2. Explain the characteristics of the PBL-PjBL learning model 3. Explain the theory supporting the PBL-PjBL learning model	**Criteria:** Use an assessment rubric **Form of Assessment** : Participatory Activities	Presentation, Discussion 3 X 50		**Material:** Problem-based learning model **Reference:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.* **Material:** Constructivist learning theory **References:** *Woolfolk, A. (2020). Educational psychology: Active learning edition (14thed.).New York: Pearson.*	4%

7	Able to apply the characteristics of the PBL-PjBL learning model in science learning designs using a scientific attitude either individually or in groups	Designing learning using the PBL-PjBL learning model	**Criteria:** Use an assessment rubric **Form of Assessment** : Project Results Assessment / Product Assessment	Discussion, observation, workshop 3 X 50		**Material:** Problem-based learning model **Reference:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.* **Material:** Constructivist learning theory **References:** *Woolfolk, A. (2020). Educational psychology: Active learning edition (14thed.).New York: Pearson.*	8%
8	-	1. Able to demonstrate understanding related to teacher-student centered learning 2. Able to demonstrate understanding regarding the inquiry-discovery learning model 3. Able to demonstrate understanding regarding cooperative learning models 4. Able to demonstrate understanding regarding the PBL-PjBL learning model	**Criteria:** Use an assessment rubric **Form of Assessment** : Test	Midterm Exam: Validate, assess and evaluate 3 X 50 learning outcomes		**Material:** Innovative learning models **References:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.*	0%
9	Able to explain the characteristics and supporting theories of the STEAM learning approach and apply them in learning designs using a scientific attitude either individually or in groups	1. Explain the characteristics of the STEAM learning approach 2. Explains the cloud theory of the STEAM learning approach 3. Designing learning using the STEAM learning approach	**Criteria:** Use an assessment rubric **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Presentations, Discussions, workshops 3 X 50		**Material:** STEM Learning Model **Reference:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.* **Material:** Constructivist learning theory **References:** *Woolfolk, A. (2020). Educational psychology: Active learning edition (14thed.).New York: Pearson.*	5%

10	Able to explain the characteristics and supporting theories of the Blended Learning learning approach and apply them in learning designs using a scientific attitude either individually or in groups	1. Explain the characteristics of the STEAM learning approach 2. Explains the cloud theory of the STEAM learning approach 3. Designing learning using the STEAM learning approach	**Criteria:** Use an assessment rubric **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Presentations, Discussions, workshops 3 X 50		**Material:** STEM Learning Model **Reference:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.* **Material:** Constructivist learning theory **References:** *Woolfolk, A. (2020). Educational psychology: Active learning edition (14thed.).New York: Pearson.*	5%
11	1. Able to design, implement and evaluate science learning based on innovative learning models 2. Able to communicate project results regarding innovative learning models	1. Identifying problems in schools related to scientifically innovative learning models 2. Conduct literature reviews related to solutions to solve problems regarding innovative learning models 3. Designing science learning using the most appropriate learning model 4. Carry out (simulate) science learning using the most appropriate learning model 5. Evaluate the implementation of science learning using the most appropriate learning model 6. Prepare a project report on the results of investigating innovative learning models in science learning 7. Presenting the results of projects on innovative learning models in science learning in front of the class	**Criteria:** Using learning device assessment rubrics and learning simulations **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance		Discussions, workshops, presentations, projects, observations 3 X 50	**Material:** Blended Learning Approach **Literature:** *Susiyawati, E., et. al. 2022. Optimizing Science Process Skills through Blended Learning. Surabaya: JDS.* **Material:** Innovative learning models **References:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.*	10%

12	-	1. Identifying problems in schools related to scientifically innovative learning models 2. Conduct literature reviews related to solutions to solve problems regarding innovative learning models 3. Designing science learning using the most appropriate learning model 4. Carry out (simulate) science learning using the most appropriate learning model 5. Evaluate the implementation of science learning using the most appropriate learning model 6. Prepare a project report on the results of investigating innovative learning models in science learning 7. Presenting the results of projects on innovative learning models in science learning in front of the class	**Criteria:** Using learning device assessment rubrics and learning simulations **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance		Discussions, workshops, presentations, projects, observations 3 X 50	**Material:** Blended Learning Approach **Literature:** *Susiyawati, E., et. al. 2022. Optimizing Science Process Skills through Blended Learning. Surabaya: JDS.* **Material:** Innovative learning models **References:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.*	10%

13	-	1. Identifying problems in schools related to scientifically innovative learning models 2. Conduct literature reviews related to solutions to solve problems regarding innovative learning models 3. Designing science learning using the most appropriate learning model 4. Carry out (simulate) science learning using the most appropriate learning model 5. Evaluate the implementation of science learning using the most appropriate learning model 6. Prepare a project report on the results of investigating innovative learning models in science learning 7. Presenting the results of projects on innovative learning models in science learning in front of the class	**Criteria:** Using learning device assessment rubrics and learning simulations **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance		Discussions, workshops, presentations, projects, observations 3 X 50	**Material:** Blended Learning Approach **Literature:** *Susiyawati, E., et. al. 2022. Optimizing Science Process Skills through Blended Learning. Surabaya: JDS.* **Material:** Innovative learning models **References:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.*	10%

14	-	1. Identifying problems in schools related to scientifically innovative learning models 2. Conduct literature reviews related to solutions to solve problems regarding innovative learning models 3. Designing science learning using the most appropriate learning model 4. Carry out (simulate) science learning using the most appropriate learning model 5. Evaluate the implementation of science learning using the most appropriate learning model 6. Prepare a project report on the results of investigating innovative learning models in science learning 7. Presenting the results of projects on innovative learning models in science learning in front of the class	**Criteria:** Using learning device assessment rubrics and learning simulations **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance		Discussions, workshops, presentations, projects, observations 3 X 50	**Material:** Blended Learning Approach **Literature:** *Susiyawati, E., et. al. 2022. Optimizing Science Process Skills through Blended Learning. Surabaya: JDS.* **Material:** Innovative learning models **References:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.*	10%

15	-	1. Identifying problems in schools related to scientifically innovative learning models 2. Conduct literature reviews related to solutions to solve problems regarding innovative learning models 3. Designing science learning using the most appropriate learning model 4. Carry out (simulate) science learning using the most appropriate learning model 5. Evaluate the implementation of science learning using the most appropriate learning model 6. Prepare a project report on the results of investigating innovative learning models in science learning 7. Presenting the results of projects on innovative learning models in science learning in front of the class	**Criteria:** Using learning device assessment rubrics and learning simulations **Form of Assessment** : Assessment of Project Results / Product Assessment, Practices / Performance		Discussions, workshops, presentations, projects, observations 3 X 50	**Material:** Blended Learning Approach **Literature:** *Susiyawati, E., et. al. 2022. Optimizing Science Process Skills through Blended Learning. Surabaya: JDS.* **Material:** Innovative learning models **References:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.*	10%

16	-	1. Presenting the results of projects to overcome problems in schools related to the implementation of innovative learning models 2. Evaluate the results of projects to address problems in schools related to the implementation of innovative learning models	**Criteria:** Using a portfolio assessment rubric **Form of Assessment** : Project Results Assessment / Product Assessment, Portfolio Assessment		Final semester exam: team-based project 3 X 50	**Material:** Innovative learning models **References:** *Arends, Richard I. 2012. Learning To Teach 9th Edition. New York: McGraw-Hill Book Company.* **Material:** Learning strategies **References:** *Nur, Mohamad. 2000. Learning Strategies. Surabaya: School Science and Mathematics Center.* **Material:** learning theories supporting innovative learning models **References:** *Woolfolk, A. (2020). Educational psychology: Active learning edition (14thed.).New York: Pearson.* **Material:** Blended Learning **Library:** *Susiyawati, E., et. al. 2022. Optimizing Science Process Skills through Blended Learning. Surabaya: JDS.*	0%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	15%
2.	Project Results Assessment / Product Assessment	54%
3.	Practice / Performance	27%
4.	Test	4%
		100%

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.