	Universitas Negeri Surabaya Faculty of Education, Bachelor of Primary School Teacher Education Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date
Elementary science learning	8620603257	Study Program Elective Courses	T=3 P=0 ECTS=4.77	5	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	Prof. Dr. Suryanti, M.Pd. ; Drs. Mintohari, M.Pd. ; Dr. Julianto, S.Pd., M.Pd. ; Farida Istianah, M.Pd., Nadia Lutfi Choirunnisa, S.Pd., M.Pd.	Prof. Dr. Suryanti, M.Pd.	Putri Rachmadyanti, S.Pd., M.Pd.

Learning model	**Case Studies**	
Program Learning Outcomes (PLO)	**PLO study program that is charged to the course**	
	PLO-5	Analyzing the application of basic education science by prioritizing inclusive education based on technology and local wisdom.
	PLO-10	Demonstrate pedagogical knowledge and skills related to designing, implementing, evaluating learning in elementary schools by utilizing ICT, local wisdom and research results.
	Program Objectives (PO)	
	PO - 1	CPMK 1 Mastering the essential concepts of science subjects in elementary schools and their learning including misconceptions and strategies to overcome them
	PO - 2	CPMK 2 Utilizing learning resources and ICT to master and develop curriculum, approaches, strategies, models, methods, techniques, teaching materials, media and learning resources, as a class teacher, especially in the field of science lessons in elementary schools
	PO - 3	CPMK 3 Mastering the concepts, principles and assessment procedures in science learning that are oriented towards standard assessment
	PO - 4	CPMK 4 Make decisions in designing and implementing science learning that are relevant to competencies, lesson material characteristics and student characteristics
	PO - 5	CPMK 5 Has commitment and responsibility in implementing and developing science learning to improve the quality of learning in elementary schools
	PLO-PO Matrix	

P.O	PLO-5	PLO-10
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	This course equips students with the skills to plan, implement and manage, as well as evaluate science learning in elementary school by utilizing knowledge about science material in elementary school, learning methodology, and authentic assessment independently and responsibly by utilizing ICT.
References	**Main :**

1. Permendikbud Nomor 20 Tahun 2016 tentang Standar Kompetensi Lulusan.
2. Permendikbud Nomor 21 tahun 2016 tentang Standar Isi.
3. Permendikbud Nomor 22 Tahun 2016 tentang Standar Proses.
4. Permendikbud Nomor 23 Tahun 2016 tentang Standar Penilaian.
5. Permendikbud Nomor 24 Tahun 2016 tentang Kompetensi Inti dan Kompetensi Dasar.
6. Anderson, Lorin W & Krathwohl, David R. 2001. A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Education Objectives. A Bridged Adition . New York: Addison Wesley Longman.
7. Arends, Richard I. (2012). Learning To Teach sixth Edition. New York: McGraw-Hill Book Company.
8. Buku Guru dan Buku Siswa sesuai kurikulum yang berlaku.
9. Hosnan. 2014. Pendekatan Sainstifik dan CTL dalam Abad
10. . ...: Ghalia Indonesia.
11. . Ibrahim, Muslimin. (2012). Konsep, Miskonsepsi, dan Cara Pembelajarannya. Surabaya: University Press.
12. . Ibrahim, Muslimin. 2005. Asesmen Berkelanjutan. Surabaya: Unipress.
13. . Ibrahim, Muslimin. 2014. Model Pembelajaran Inovatif Melalui Pemaknaan.
14. . Lawson, A. E. 1994. Science Teaching and the Development of Thinking . California: Wadsworth Publishing Company.
15. . Peters. Joseph M., dan Stout, David L. 2006. Science in Elementary Education . Methods, Concepts, and Inquiries . Ohio: Pearson Merrill Prentice Hall.
16. . Suparno, P. 2002. Miskon s epsi dan Perubahan Konsep. Jakarta: PT.Grasindo.
17. . Suryanti, Mintohari, Wahono Widodo. 2013. Pengembangan Pembelajaran IPA SD. Surabaya: Unesa Unipress.
18. . Suryanti, Mintohari, Julianto, dan Farida Istianah. 2020. Pendidikan IPA di SD. Surabaya: Unesa Unipress.
19. . Yuliati dan Djojosoediro, 2009. Pengembangan Pembelajaran IPA SD. Jakarta: Ditjen Dikti.

Supporters:

1. Hungerford, H. R., & Tomera, A. N. (1985). Science Teaching Methods for the Elementary School: A Worktext. Stipes Publishing Co., 10-12 Chester St., Champaign, IL 61820.

Supporting lecturer

Prof. Dr. Suryanti, M.Pd.
Drs. Mintohari, M.Pd.
Dr. Julianto, S.Pd., M.Pd.
Farida Istianah, S.Pd., M.Pd.
Putri Rachmadyanti, S.Pd., M.Pd.
Nadia Lutfi Choirunnisa, S.Pd., M.Pd.
Ivo Yuliana, 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	Describe the essence	1.Explain the characteristics of IPA 2.Explain the position of science as a product, process and attitude 3.Provide examples of the nature of science as a product, process and attitude	**Criteria:** attached **Form of Assessment** : Participatory Activities	Discussion, observation and presentation 3 X 50	Synchronous: Zoom Meeting Asynchronous: Vinesa 3 x 50	**Material:** The Nature of Science Learning **References:** . *Peters. Joseph M., and Stout, David L. 2006. Science in Elementary Education. Methods, Concepts, and Inquiries. Ohio: Pearson Merrill Prentice Hall.* **Material:** Science education in elementary school **Reference:** . *Suryanti, Mintohari, Julianto, and Farida Istianah. 2020. Science education in elementary school. Surabaya: Unesa Unipress.* **Material:** Misconceptions of Science Learning **Literature:** . *Suparno, P. 2002. Misconception and Concept Change. Jakarta: PT. Grasindo.*	5%

2	Describe the essence	1. Explain the characteristics of IPA 2. Provide examples of the nature of science as a product, process and attitude 3. Explain the position of science as a product, process and attitude	**Criteria:** attached **Form of Assessment** : Participatory Activities	Discussion, observation and presentation 3 X 50	Synchronous: Zoom Meeting Asynchronous: Vinesa 3 x 50	**Material:** Science education in elementary school **Reference:** . *Suryanti, Mintohari, Julianto, and Farida Istianah. 2020. Science education in elementary school. Surabaya: Unesa Unipress.* **Material:** Misconceptions of Science Learning **Literature:** . *Suparno, P. 2002. Misconception and Concept Change. Jakarta: PT. Grasindo.*	5%

3	Analyzing the elementary school science curriculum	1. Explain the background and scope of elementary science) 2. Explain the basic framework and structure of the elementary school science curriculum 3. Analyzing elementary school science learning objectives 4. Analyzing KD IPA SD 5. Analyze the dimensions of science learning outcomes (knowledge, skills, attitudes 6. Identifying and solving science learning problems in elementary school	**Criteria:** attached **Form of Assessment** : Participatory Activities	Project discussion and presentation : identification of science learning problems in SD 3	Synchronous: Zoom Meeting Asynchronous: Vinesa 3 X 50	**Material:** Science background and science curriculum **References:** . *Suryanti, Mintohari, Julianto, and Farida Istianah. 2020. Science education in elementary school. Surabaya: Unesa Unipress.* **Material:** Science Curriculum **Library:** **Minister of Education and** *Culture Regulation Number 20 of 2016 concerning Graduate Competency Standards.* **Material:** Science Curriculum **Library:** **Minister of Education and** *Culture Regulation Number 21 of 2016 concerning Content Standards.* **Material:** Science Curriculum **Library:** **Minister of Education and** *Culture Regulation Number 22 of 2016 concerning Process Standards.* **Material:** Science Curriculum **Library:** **Minister of Education and** *Culture Regulation Number 23 of 2016 concerning Assessment Standards.* **Material:** Science Curriculum **Library:** **Minister of Education and** *Culture Regulation Number 24 of 2016 concerning Core Competencies and Basic Competencies.*	5%

4	Mastering the essential concepts of science material in elementary school	1.Explains essential elementary science concepts 2.Create an elementary science concept map 3.Identify science concepts that elementary school students have not yet mastered	**Criteria:** attached **Form of Assessment** : Participatory Activities	Offline: Discussion, Q&A, 3 X 50 Presentations	Synchronous: Zoom Meeting Asynchronous: Vinesa 3 X 50	**Material:** science methods, concepts and inquiry. **Reference:** . *Peters. Joseph M., and Stout, David L. 2006. Science in Elementary Education. Methods, Concepts, and Inquiries. Ohio: Pearson Merrill Prentice Hall.* **Material:** science concepts and misconceptions **Library:** . *Ibrahim, Muslim. (2012). Concepts, Misconceptions, and How to Learn. Surabaya: University Press.* **Material:** Science Approach in Elementary School **Reader:** *Hosnan. 2014. Scientific Approach and CTL in the Century*	5%
5	Mastering the essential concepts of science material in elementary school	1.Explains essential elementary science concepts 2.Create an elementary science concept map 3.Identify science concepts that elementary school students have not yet mastered	**Criteria:** attached **Form of Assessment** : Participatory Activities	Student presentation, Project assignment: identify concepts that are difficult for elementary school 3 X 50 students to master	Synchronous: Zoom Meeting Asynchronous: Vinesa 3 X 50	**Material:** science concept map **Library:** *Teacher's book and student's book according to the applicable curriculum.* **Material:** science concepts and misconceptions **Library:** . *Ibrahim, Muslim. (2012). Concepts, Misconceptions, and How to Learn. Surabaya: University Press.*	5%
6	Mastering the essential concepts of science material in elementary school	1.Explains essential elementary science concepts 2.Make an elementary science concept map 3.Identify science concepts that elementary school students have not yet mastered	**Criteria:** attached **Form of Assessment** : Participatory Activities, Practice/Performance	Student presentation Project assignment: identify concepts that are difficult for elementary school 3 X 50 students to master	Synchronous: Zoom Meeting Asynchronous: Vinesa 3 X 50	**Material:** science concepts **Literature:** . *Suparno, P. 2002. Misconception and Concept Change. Jakarta: PT. Grasindo.* **Material:** science concepts **Literature:** . *Ibrahim, Muslim. (2012). Concepts, Misconceptions, and How to Learn. Surabaya: University Press.*	10%

7	Identifying science misconceptions and how to overcome them	1.Explain the meaning of misconception 2.Identifying science misconceptions 3.Identifying the causes of IPA misconceptions 4.Formulate ways to uncover misconceptions about learning science 5.Find ways to overcome misconceptions	**Criteria:** attached **Form of Assessment** : Participatory Activities	Project discussion and presentation: identification of misconceptions and their remediation 3 X 50	Synchronous: Zoom Meeting Asynchronous: Vinesa 3 X 50	**Material:** science misconceptions **Reference:** . *Suparno, P. 2002. Misconception and Concept Change. Jakarta: PT. Grasindo.* **Material:** science concepts and misconceptions **Library:** . *Ibrahim, Muslim. (2012). Concepts, Misconceptions, and How to Learn. Surabaya: University Press.*	5%
8	UTS	attached	**Criteria:** attached **Form of Assessment** : Test	Offline: 3 X 50 Test	Synchronous: Zoom Meeting Asynchronous: Vines 3 X 50		10%
9	Mastering the science learning methodology in elementary school	1.Analyzing the science learning methodology in elementary school based on problem solving 2.Designing science learning based on online/offline/blended learning	**Criteria:** attached **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	science learning methodology in elementary school based on problem solving. Project assignment: designing science learning based on problem solving 3 X 50	Synchronous: Zoom Meeting Asynchronous: Vanesa 3 X 50	**Material:** Scince research methods **References:** *Hungerford, HR, & Tomera, AN (1985). Science Teaching Methods for the Elementary School: A Worktext. Stipes Publishing Co., 10-12 Chester St., Champaign, IL 61820.*	0%
10	Mastering the science learning methodology in elementary school	1.· Analyzing the science learning methodology in elementary school based on problem solving 2.Designing science learning based on online/offline/blended learning	**Criteria:** attached **Form of Assessment** : Participatory Activities	· Presentation of problem-solving-based science learning methodology in elementary school Project assignment: designing problem-solving-based science learning 3 X 50	synchronous: Zoom Meeting Asynchronous: Vanesa 3 X 50	**Material:** Scince research methods **References:** *Hungerford, HR, & Tomera, AN (1985). Science Teaching Methods for the Elementary School: A Worktext. Stipes Publishing Co., 10-12 Chester St., Champaign, IL 61820.*	5%
11	Mastering the basic concepts of assessment in science learning	1.· Explain the various types of assessments (knowledge, attitudes, skills) 2.Designing assessment instruments on the dimensions of attitudes, knowledge and skills	**Criteria:** attached **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	· Presentation · Review a sample assessment Project assignment: design a 3 X 50 assessment	synchronous: Zoom Meeting Asynchronous: vanesa 3 X 50	**Material:** elementary school science learning **Library:** . *Lawson, AE 1994. Science Teaching and the Development of Thinking. California: Wadsworth Publishing Company.*	5%

12	Determine teaching materials and learning media	1.· Determine the type of teaching materials 2.Determine learning media	**Criteria:** attached **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Presentation Study examples of LKPD Practice Science Kits Project assignment: create teaching materials and media 3 X 50	Synchronous: Zoom Meeting Asynchronous: Vanesa 3 X 50	**Material:** development of science learning **References:** . *Suryanti, Mintohari, Wahono Widodo. 2013. Development of Elementary School Science Learning. Surabaya: Unesa Unipress.* **Material:** development of science learning **References:** . *Yuliati and Djojosoediro, 2009. Development of Elementary School Science Learning. Jakarta: Directorate General of Higher Education.*	5%
13	Determine teaching materials and learning media	· Determine the type of teaching materials. Determine the learning media	**Criteria:** attached **Form of Assessment** : Practice / Performance	· Presentations · Study examples of LKPD · Practice Science Kits Project assignments: create teaching materials and media 3 X 50	synchronous: Zoom Meeting Asynchronous: Vanesa 3 X 50	**Material:** innovative science learning **Reference:** . *Ibrahim, Muslim. 2014. Innovative Learning Models Through Meaning.*	5%
14	Project presentation	1.· Create written project reports 2.Communicate project reports Revise reports according to presentation results	**Criteria:** attached	· Question and answer presentation 3 X 50	synchronous: Zoom Meeting Asynchronous: Vanesa 3 X 50		5%
15	Project presentation	1.Create written project reports 2.Communicate project reports 3.Revise the report according to the results of the presentation	**Criteria:** attached	Presentation, Question and answer 3 X 50	Synchronous: Zoom Meeting Asynchronous: Vanesa 3 X 50		5%
16	Science Final Project	Students are able to produce the final product of elementary science learning	**Criteria:** attached **Form of Assessment** : Project Results Assessment / Product Assessment	Final Project 3 X 50	Synchronous; Asynchronous Zoom Meeting : Vanesa 3 X 50		30%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	45%
2.	Project Results Assessment / Product Assessment	35%
3.	Practice / Performance	10%
4.	Test	10%
		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.