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

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date
Learning Planning	8420402292	Compulsory Study Program Subjects	T=2 P=0 ECTS=3.18	3	June 1, 2022

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 which is charged to the course**	
	PLO-10	Able to design, implement, evaluate, learn and develop chemistry learning media by utilizing Information and Communication Technology (CPL 4)
	PLO-12	Able to demonstrate chemical pedagogical knowledge about designing, implementing and evaluating chemistry learning (CPL 2)
	Program Objectives (PO)	
	PO - 1	1) Students have knowledge of the components in developing learning tools
	PO - 2	2) Students have the ability to plan and design chemistry learning that is student-oriented and provides a meaningful learning experience
	PO - 3	3) Students have a sense of responsibility and act intelligently in developing chemistry learning tools to achieve learning competency.
	PLO-PO Matrix	

P.O	PLO-10	PLO-12
PO-1		
PO-2		
PO-3		

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																

Short Course Description	This course discusses the basic concepts of learning planning which involves analysis of the main subject matter, development of semester programs (promes) and annual programs (prota), syllabus development, and development of lesson plans related to learning implementation, learning planning steps, planning models /innovative learning, and creating learning design products and their supports (in two languages for superior chemistry education classes)
References	**Main :**

1. Ananda, Rusydi. 2019. Perencannaan Pembelajaran. Medan: LPII Press.
2. Arends, Richard. 2012. Learning to Teach . Tenth Edition. New York: McGraw-. Hill Education
3. Cooper, J.M, et.all. 2011. Classroom Teaching Skills, Ninth Edition. USA: Wadsworth, Cengage Learning.
4. Johnstone, A., H. 1993. The Development of Chemistry Teaching: A Changing Response to Changing Demand. Journal of Chemical Education, 70(9)

Supporters:

Supporting lecturer	Dr. Muchlis, S.Pd., M.Pd. Bertha Yonata, S.Pd., M.Pd. Findiyani Ernawati Asih, 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	Students are able to analyze the Chemistry curriculum in high school and vocational school	- Explain the demands for chemistry learning competencies in the high school and vocational school curriculum. - Analyzing basic competencies in learning Chemistry in high school and vocational school.	**Criteria:** Participation, UTS, UAS, and Assignments	Discussion 2 X 50		**Material:** Learning planning, graduate competency standards, core chemistry competencies, basic chemistry competencies. **Library:** *Ananda, Rusydi. 2019. Learning Planning. Medan: LPII Press.*	0%
2	Students are able to prepare an Annual Program (PROTA)	1. Calculating effective weeks for Kimja learning. 2. Prepare an annual program for chemistry learning	**Criteria:** Participation, UTS, UAS, and Assignments **Form of Assessment** : Project Results Assessment / Product Assessment	Demonstration and Assignment 2 X 50		**Material:** Educational unit calendar. **Reference:** *Ananda, Rusydi. 2019. Learning Planning. Medan: LPII Press.*	10%
3	Students are able to prepare Semester Programs (PROMES)	Calculating effective hours in learning Chemistry. Preparing a semester program for learning Chemistry	**Criteria:** participation, assignments, UTS and UAS **Form of Assessment** : Project Results Assessment / Product Assessment	Demonstration and Assignment 2 X 50		**Material:** Educational unit educational calendar **Reference:** **Material:** Educational unit calendar. **Reference:** *Ananda, Rusydi. 2019. Learning Planning. Medan: LPII Press.*	10%
4	Students are able to develop indicators of competency achievement in designing chemistry learning plans	1. Explain the rules for preparing learning indicators. 2. Explain the function of learning indicators 3. Developing learning indicators as a component of chemistry learning planning.	**Criteria:** participation, assignments, UTS, and UAS **Form of Assessment** : Project Results Assessment / Product Assessment	Assignment and Discussion 2 X 50		**Material:** Requirements for developing learning indicators, Function of learning indicators in learning planning, **Library Chemistry Syllabus:** *Cooper, JM, et.all. 2011. Classroom Teaching Skills, Ninth Edition. USA: Wadsworth, Cengage Learning.*	5%

5	Students develop learning objectives in chemistry learning design	Explain the rules for writing learning objectives. Develop learning objectives as a component of learning planning	**Criteria:** participation, UTS and UAS assignments **Form of Assessment** : Project Results Assessment / Product Assessment	Discussion and Assignment 2 X 50		**Material:** Rules for developing learning objectives in ABCD format, Learning objectives as a component in learning planning, **Library Chemistry Syllabus:** **Material:** Rules for developing learning objectives in ABCD format, Learning objectives as a component in learning planning, **Library Chemistry Syllabus:** *Cooper, JM, et.all. 2011. Classroom Teaching Skills, Ninth Edition. USA: Wadsworth, Cengage Learning.*	5%
6	Students are able to design learning activities based on learning approaches, models and methods	1. Explain the scientific approach 2. Identifying learning models that suit curriculum demands 3. Choose a learning method that suits the characteristics of the material 4. Designing student-oriented learning	**Criteria:** participation, assignments, UTS and UAS **Form of Assessment** : Project Results Assessment / Product Assessment	Discussion 2 X 50		**Material:** Scientific approach and chemistry learning methods **References:** *Arends, Richard. 2012. Learning to Teach. Tenth Edition. New York: McGraw-. Hill Education*	10%
7	Students are able to design learning activities based on learning approaches, models and methods	1. Explain the scientific approach 2. Identifying learning models that suit curriculum demands 3. Choose a learning method that suits the characteristics of the material 4. Designing learning that is oriented towards active student learning	**Criteria:** participation, assignments, UTS and UAS **Form of Assessment** : Project Results Assessment / Product Assessment	Discussion 2 X 50		**Material:** Scientific approach **References:** *Arends, Richard. 2012. Learning to Teach. Tenth Edition. New York: McGraw-. Hill Education*	10%
8	UTS	UTS		2 X 50			0%
9	Students are able to design chemistry lessons	1. explains models, methods, approaches, strategies, learning techniques 2. distinguish models, methods, approaches, strategies, learning techniques	**Criteria:** participation, assignments, UTS and UAS **Form of Assessment** : Participatory Activities	- Discussion 2 X 50		**Material:** Models, methods, approaches, strategies, learning techniques **References:** *Arends, Richard. 2012. Learning to Teach. Tenth Edition. New York: McGraw-. Hill Education*	5%
10	Students are able to design chemistry lessons	1. identify material characteristics 2. choose the appropriate learning strategy/approach/model 3. develop lesson plans	**Criteria:** participation, assignments, UTS and UAS **Form of Assessment** : Project Results Assessment / Product Assessment	Assignments, Discussions and Presentations 2 X 50		**Material:** Chemistry Learning Design **References:** *Cooper, JM, et.all. 2011. Classroom Teaching Skills, Ninth Edition. USA: Wadsworth, Cengage Learning.*	10%

11	Students are able to design learning based on chemical representations (macroscopic, microscopic and symbolic)	1.identify chemical representations (macroscopic, microscopic, and symbolic) 2.analyze the relationship between the three chemical representations on certain chemical topics 3.choose the right model/media for visualization of microscopic aspects	**Criteria:** participation, assignments, UTS and UAS **Form of Assessment** : Project Results Assessment / Product Assessment	- Discussion 2 X 50		**Material:** Chemical Representations **Bibliography:** *Johnstone, A., H. 1993. The Development of Chemistry Teaching: A Changing Response to Changing Demand. Journal of Chemical Education, 70(9)*	5%
12	Students are able to design learning based on chemical representations (macroscopic, microscopic and symbolic)	1.identify chemical representations (macroscopic, microscopic, and symbolic) 2.analyze the relationship between the three chemical representations on certain chemical topics 3.choose the right model/media for visualization of microscopic aspects	**Criteria:** participation, assignments, UTS and UAS **Form of Assessment** : Project Results Assessment / Product Assessment	- Discussion 2 X 50		**Material:** Chemical Representations **Bibliography:** *Johnstone, A., H. 1993. The Development of Chemistry Teaching: A Changing Response to Changing Demand. Journal of Chemical Education, 70(9)*	5%
13	identify the domains of learning outcomes (cognitive, affective and psychomotor)	1.explains the cognitive, affective and psychomotor domains 2.identifying operational verbs in the realm of learning outcomes based on the Revised Bloom's taxonomy 3.classifying examples and non-examples of LOTS and HOTS cognitive domains 4.differentiate between examples of instruments and rubrics in the cognitive, affective and psychomotor domains	**Criteria:** participation, assignments, UTS and UAS **Form of Assessment** : Participatory Activities	Interactive Presentation and Discussion 2 X 50		**Material:** Assessment of the Domain of Chemistry Learning Achievement **References:** *Cooper, JM, et.all. 2011. Classroom Teaching Skills, Ninth Edition. USA: Wadsworth, Cengage Learning.*	5%
14	Students are able to identify assessment techniques in chemistry learning	1.Explain the difference between assessment and assessment 2.Explain the rules for preparing test questions in chemistry learning 3.Determining assessment techniques in chemistry learning	**Criteria:** participation, assignments, UTS and UAS	Discussion 2 X 50		**Material:** The concept of assessment and assessment and assessment techniques in learning. **Reference:** *Arends, Richard. 2012. Learning to Teach. Tenth Edition. New York: McGraw-. Hill Education*	5%
15	Students are able to identify assessment techniques in chemistry learning	1.Explain the difference between assessment and assessment 2.Explain the rules for preparing test questions in chemistry learning 3.Determining assessment techniques in chemistry learning	**Criteria:** participation, assignments, UTS and UAS **Form of Assessment** : Project Results Assessment / Product Assessment	Discussion 2 X 50		**Material:** Concept of assessment and grading, Assessment techniques in learning, Assessment specification table **References:** *Cooper, JM, et.all. 2011. Classroom Teaching Skills, Ninth Edition. USA: Wadsworth, Cengage Learning.*	10%
16	UAS		**Criteria:** UAS				0%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	10%
2.	Project Results Assessment / Product Assessment	80%
		90%

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.