SEMESTER LEARNING PROGRAM

FOUNDAMENTAL CHEMISTRY I

CODE KIMS119110

By:

Prof. I Wayan Subagia, Ph.D.

CHEMISTRY EDUCATION STUDY PROGRAM

FACULTY OF MATHEMATICS AND NATURAL SCIENCES

UNIVERSITAS PENDIDIKAN GANESHA

2019

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FACULTY OF MATHEMATICS AND NATURAL SCIENCES
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I. SUBJECT IDENTITY

Department	: Chemistry
Study Program	: Chemistry Education
Subject Matter	: Fundamental Chemistry I
Subject Code	: KIM119110
Semester	: I
Weight	: 3(1) 5 hrs/w
Prerequisite	: -
Academic Year	: 2019/2020
Lecturers	: Prof. I Wayan Subagia, Ph.D.

II. SUBJECT MATTER DESCRIPTION

The aim of this subject is to build professional competency of chemistry teacher candidates. In this subject, it is studied about laboratory works, glassware, chemicals, the structure of matters, the properties of matters, periodic tabel of elements, and chemical bonding. The study is focused in improving factual, conceptual, prosedural, and meta cognitive knowledge of laboratory works, the use of glassware, the use of chemicals, the macroscopic and microscopic structure of matter, the intrinsic and extrinsic properties of matters, the periodicity of elements, and the chemical bonds among atoms. In addition, in this subject is also built personal and social competencies of students including caution to the Supreme God, resfect of human values based on religion, moral, and ethique. In following the subject, students are expected to participate actively in developing chemistry knowledge and working skill at laboratory.

III. LEARNING ACTIVITIES

Week	LO	Learning Materials	Learning Target	Learning Methods	Learning Experience	Time Allocation
1	2	3	4	5	6	7
I	CPS 1, 2, 11, 12 CPP 2 CPKU 2	Syllabus, RPS, Contract	Understanding learning materials and tasks	Information, Question-answer, library tour	Listening to lecturer. Clarifying learning materials by questions-answers. Exploring library to find out textbook	1 x 5 hrs
II and III	CPS 1, 2, 11, 12 CPP 2 CPKU 2	Glassware	Explaining glassware available at laboratory. Describing the way to use glassware. Practicing to use glassware.	Information, Question-answer, Exercise, Task	Listening to lecturer. Observing glassware available at laboratory. Clarifying learning materials by questions-answers. Exercising the way to use glassware. Writing task.	2 x 5 hrs
IV and V	CPS 1, 2, 11, 12 CPP 2 CPKU 2	Chemicals	Explaining chemicals available at laboratory. Describing elements, compounds, and mixtures. Practicing providing solutions.	Information, Question-answer, Exercise, Task	Listening to lecturer. Observing chemicals available at laboratory. Discussing different kinds of chemical: elements, compounds, and mixtures. Clarifying learning materials by questions-answers. Exercising the way to provide solutions. Writing task.	2 x 5 hrs
VI and VII	CPS 1, 2, 11, 12 CPP 2 CPKU 2	The structure of matters	Explaining the macroscopic and microscopic structure of matters. Explaining the symbols used to present chemical and chemical processes.	demonstration, Discussion Question-answer, Task	Observing a demonstration of matters. Discussing multiple representation of matters: macroscopic, microscopic, and symbolic. Clarifying learning materials by questions-answers. Writing task.	2 x 5 hrs

			Explaining the structure of atoms, molecule, and ions.			
VIII		UTS	Mastering learning materials	Test	Doing test	3 hrs.
IX and X	CPS 1, 2, 11, 12 CPP 2 CPKU 2	The properties of matter	Explaining the properties of matters. Differentiating between intrinsic and extrinsic properties of matter Differentiating physical and chemical properties of matters. Differentiating between acid and based solution. Describe the properties of solutions.	Information, Question-answer, Experiment, Task	Listening to lecturer. Discussing different kinds of matter properties: intrinsic, extrinsic, physical, chemical, acid and based. Clarifying learning materials by questions-answers. Writing task. Experimenting the properties of solutions.	2 x 5 hrs
XI and XII	CPS 1, 2, 11, 12 CPP 2 CPKU 2	Periodic table of elements	Differentiating between metal dan non metal elements. Describing the properties of elements based on its electron configuration. Describe the periodicity of elements.	Observation, Discussion, Question-answer, Task	Observing periodic table of element Discussing the propertis of elements based on electron configuration. Discussing the periodicity properties of compounds. Clarifying learning materials by questions-answers. Writing task.	2 x 5 hrs
XIII and XIV	CPS 1, 2, 11, 12 CPP 2 CPKU 2	Chemical bonding	Differentiating between ionic and covalen bonds. Differentiating between polar and non polar solution.	Discussion, Experiment, Task.	Discussing chemical bonding. Experimenting the effect of chemical bonding towards the properties of matters.	2 x 5 hrs

			Describing the properties of compounds based on its chemical bonds.			
XV	CPS 1, 2, 11, 12 CPP 2 CPKU 2	Chemistry project	Designing a project to prove the properties of matter. Writing project report to prove the properties of mattes.	Project design, Experiment, Task	Designing project Cunducting experiment Writing project report	10 hrs
XVI		Final Exam	Understanding learning materials	Test	Doing Test	3 hrs.

ASSESSMENT

1) Process (60 %)
   a) Participation (20%)
   b) Task (40%)

2) Product (40 %)
   a) Middle Exam (15 %)
   b) Finnal Exam (25 %)

Singaraja, 26/8/2019

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