SYLLABUS

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

SUBJECT MATTER SYLLABUS

I. SUBJECT MATTER IDENTITY

Departement : Chemistry
Study Program : Chemistry Education
Subject Matter : Fundamental Chemistry I
Subject Code : KIMS119110
Semester : I
Weight : 3(1) 5 hr/w

II. SUBJECT MATTER DESCRIPTION

The aim of this subject is to build professional competency of chemistry teacher candidates in English and chemistry. In this subject, it is studied about glassware, chemicals, the structure of matters, the properties of matters, periodic tabel of elements, chemical bonding. The study is focused in improving factual, conceptual, prosedural, metacognitive knowledge of 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 activelly in developing chemistry knowledge and working skill at laboratory.

III. LEARNING PROGRAM

No.	Learning Outcomes	Learning Outcomes Indicators	Learning Materials
1	CPS 1: Cautious to the Supreme God and show religious affection)	1) Pray before and after learning	1. Glassware 2. Chemicals 3. The structure of matters 4. The properties of matters 5. Periodic tabel of elements 6. Chemical bonding
2	CPS 2: Honor to human values based on religion, moral, and ethique	2) Dicipline in following lesson and completing tasks	
3	CPS 11: Concious of the importance of chemistry in life	3) Show awareness towards the importance on chemistry in daily life	
4	CPS 12: Internalizing "Tri Hita Karana" *values in life*	4) Show awareness towards the relationship between human being and God, among human being, and between human being and environmental.	
5	CPP 2: Understand factual, conceptual, procedural, and meta cognitive knowledge in, glassware, chemicals, the structure of	5) Describe glassware available at laboratory. 6) Describe the usage of glassware. 7) **Practice** using glassware.	

	matters, the properties of matters, periodic tabel of elements, chemical bonding.	8) Explain chemicals available at laboratory. 9) Describe physical and chemical properties of chemicals. 10) **Practice** providing solutions. 11) Explain the macroscopic and microscopic structure of matters. 12) Explain the symbols used to present chemical and chemical processes. 13) Explain the structure of atoms, molecule, and ions. 14) Explain the properties of matters. 15) **Practice** verifying the properties of matters. 16) Analyze periodic table of elements. 17) Determine the properties of elements in periodic table. 18) Identify chemical bondings of atoms, molecules, and ions. 19) Differentiate between covalent and ionic compounds. 20) **Practice** testing polar and nonpolar solutions.	
6	CPKU 2: Show quality and measurable individual performance	21) Complete the given task. 22) Write experiment reports. 23) Write a jurnal of individual learning.	

REFERENCES

Hein, 1990. *Foundation of College Chemistry* (7 Ed). California: Brooks/Cole Publishing Company.

Chang, Raymond. 2010. *Chemistry. 10th Edition.* McGraw-Hill: New York

Jespersen, N. D., J. E. Bredy, & A. Hyslop. 2012. *Chemistry: The Molecular Nature of Matt er.* USA: John Wiley and Sons Inc.

Whiten, Gailey, Davis. 1988. *General Chemistry with Qualitative Analysis*. Philadelphia: Saunder College Publishing.