UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF CHEMISTRY EDUCATION
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Bachelor of Education in Chemistry **MODULE HANDBOOK**

Module name:	**Chemistry Experiment at School**
Module level, if applicable:	Undergraduate
Code:	MPK 6216
Sub-heading, if applicable:	-
Classes, if applicable:	1
Semester:	Odd
Module coordinator:	Dr. Das Salirawati
Lecturer(s):	Dina, S.Pd.,M.Pd.; Sukisman Purtadi, S.Pd.,M.Pd.
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective Course
Teaching format / class hours per week during the semester:	Lectures: 100 minutes lectures, 120 minutes structured activities and 120 minutes individual study per week
Workload:	Total workload of the activity is 136 hours per semester which consist of 100 minutes lectures, 120 minutes structured activities, 120 minutes individual study per week.
Credit points:	2SKS (3.28 ECTS)
Prerequisites course(s):	-
Course Outcomes	After taking this course the students have ability to: CO1. show responsibility for their work as prospective chemistry teachers in high school independently CO2. explain the basics of experiments at schools, design various chemical experiments that are important to support learning in schools by considering various important factors that need to be considered in conducting experiments, as well as carry out important chemical experiments to support learning in schools taking into account various important factors need to be considered in conducting experiments CO3. make decisions appropriately in the context of problem solving against obstacles to the realization of effective chemical learning in senior high school
Content:	This course discusses the fundamentals of chemistry experiments in elementary and secondary schools, design experiments in chemistry learning in schools by looking at the analysis in terms of concepts, contexts, and implementation of experiments in schools, and various forms of application of chemical experiments in learning at school
Study / exam achievements:	Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitude if they show it significantly compared to other students in

<table>
<tr><td></td><td>general. The result of attitude assessment is not a component of the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude.

The final mark will be weight as follow:

<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO1
CO2
CO3.</td><td>Activities
Assignments
Final Exam</td><td>Presentation / written test</td><td>15%
50%
35%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, Laptop/Computer</td></tr>
<tr><td>Literature:</td><td>Brent, R. 1960. The Golden Book of Chemistry Experiments. New York: Golden Press Inc.
Felicia A. Staiger, Joshua P. Peterson, and Dean J. Campbell (2015). Variations on the “Blue-Bottle” Demonstration Using Food Items That Contain FD&C Blue #1 Journal of Chemical Education 2015 92 (10), 1684-1686 DOI: 10.1021/acs.jchemed.5b00190
Lister, T. (1995). Classic Chemistry Demonstrations. The Royal Society of Chemistry : London
Loeschnig, L. V. (2019). Simple Chemistry Experiments with Everyday Materials. New Delhi: Goodwill Publishing House
Olson,S. & Loucks-Horsley, S. (2000), Inquiry and the National Science Education Standards:A Guide for Teaching and Learning Ed. Committee on the Development of an Addendum to the National Science Education Standards on Scientific Inquiry; National Research Council
Professor, B. (2017). Creative Chemistry Experiments. Newark DE: Speedy Publishing LLC
Swann, C., H. (2014). Chemistry Experiments for High School at Home. Texas: Novare Science and Math LLC
Taweetham Limpanuparb, Cherprang Areekul, Punchalee Montriwat, and Urawadee Rajchakit. (2017). Blue Bottle Experiment: Learning Chemistry without Knowing the Chemicals Journal of Chemical Education 2017 94 (6), 730-737. DOI: 10.1021/acs.jchemed.6b00844
Thompson, R., B. (2009). Illustrated Guide to Home Chemistry Experiments. Sebastopol, U.S.A.: O’reilly.</td></tr>
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PLO and CO mapping

	PLO					
	Attitude		Knowledge	Specific Skill	General Skill	
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CO1					√	
CO2			√			
CO3				√		