



**YOGYAKARTA STATE UNIVERSITY
FACULTY OF MATHEMATICS AND NATURAL SCIENCES**

SYLLABI

FRM/FMIPA/063-00
1 April 2010

Faculty : Mathematics and Natural Sciences
Study Program : Chemistry and Chemistry Education
Course & Code : Chemistry Laboratory Management / KIC233
Total credits : Theory 2 sks Practice 0 sks
Semester : 3rd (Chemistry Education) and 2 (Chemistry)
Prerequisite courses : -
Lecturer : Susila Kristianingrum, M.Si

I. Course Description

In this course learn the material (1) understanding, purpose and scope of laboratory management, (2) understanding and laboratory functions, (3) design and layout of laboratory space, (4) management tool, (5) the management of material, (6) criteria selection tool, (7) safety in the laboratory, (8) assessment of learning activities in the laboratory, (9) management of laboratory waste, (10) experimental technique is dangerous, and (11) MSDS.

II. Standard of Competence

After attending a Laboratory Management, students are expected to be able to empower the best laboratories, working in the laboratory safely and be able to manage the laboratory equipment and materials properly.

III. Activity Plan

Meeting	Basic Competence	Essentials Concept	Learning Strategy	Learning Materials/ References
1	Explain the meaning, purpose, and scope of the laboratory management Definition, purpose and scope of laboratory management,	Definition, purpose and scope of laboratory management	Discussion	A.1, 2; B.1
2	Explain the meaning and function of educational	understanding of laboratory functions,	Discussion	A.1, 2; B.1

	laboratories, special testing, and laboratory research			
3	Create a design laboratory and the laboratory an ideal layout	ideal layout and spatial design laboratory	Presentation;	A.1;B.2
4,5	Lab equipment properly manage	the management tools	Discussion	B.2; B.3
6	Select tools appropriate to their needs and funds available	tool selection criteria	Discussions	A.1, 2
7	Assessment of laboratory activities in the laboratory	assessment of learning activities	Discussions	A.1, 2
8	Midterm I			
9,10	Able to properly manage materials	materials management	Discussion	A.2; B.4
11,12	Working in the lab	safety in the laboratory	Discussions	B.4
13	Managing laboratory wastes properly	laboratory waste management	Discussion	B.4
14	Doing a dangerous experiment techniques	dangerous experiment techniques	Discussion	B.3
15	Know the material safety data sheet (MSDS)	MSDS	Presentations	A.2
16	Midterm II			

IV. Reference Compulsory Additional

- A. 1. Regina Tutik P, dan Susila Kristianingrum. (2007). *Diktat Kuliah Manajemen Laboratorium*. Yogyakarta: FMIPA UNY.
2. Archenhold, et all. (1978). *School Science Laboratories, A Handbook of Design Management and Organization*. London : John Murray.
3. Everet, K. & Hughes, D. (1979). *A Guide to Laboratory Design*, London : Butterworths
- B. 1. Manufacturing Chemists Association. (1972). *Guide for Safety in The Chemical Laboratory*. New York : Van Nostrand Reinhold Company.
2. Lehman, J.W. (2008). *The Student's Lab. Companion. Laboratory*

Techniques for Organic Chemistry. New Jersey: Prentice Hall.

3. National Research Council (2010). *Chemical Laboratory Safety and Security. A Guide to Prudent Chemical Management*. Washington DC: The NSC.
4. Moran, L. and Masciangioli, T. (2010). *Chemical Laboratory Safety and Security A Guide to Prudent Chemical Management*. Washington DC: The National Academies Press.

IV. Evaluation

No	Component	Worth (%)
1	Participation	15
2	Assignment	15
3	Midterm Exam	30
4	Final Exam	40
	Total	100

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