



SILABUS

MANAGEMENT LABORATORIUM (KI311)

No. Dok. : FPMIPA-KI-SL-47
Revisi : 00
Tanggal : 21 April 2011
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Dibuat Oleh :

Diperiksa Oleh :

Disetujui Oleh :

Prof. Dr. Anna Permanasari, M.Si
(Koordinator Mata Kuliah)

Dr. Ahmad Mudzakir, M.Si
(Ketua Program Studi Kimia)

Dr. Ijang Rohman, M.Si
(Ketua Jurusan Pendidikan Kimia)

Laboratory Management (KI-311) 2 SKS

Description:

The aim of the course is to give the better understand on how to manage laboratory included standards related to laboratory, technicians, waste treatment, and its environment. The course is a compulsory for student in semester 5. The subject of this course is an enhancement of laboratory basic skills course in semester 1. Subjects are including Standards in chemistry Laboratory management, Laboratory organization, Laboratory design, Inventory of materials, equipments, instruments, and activity of chemistry lab, Safety and security in lab, Material safety and data sheet (MSDS), and Quality system in chemistry laboratory (ISO/IEC 17025: 2005). The course is arranged under some approaches and methods those are mainly focused on student activities, such as inquiry, problem based learning, case study, field visite, and self task. Assesment is done based on mid test, final test, individual and group tasks, and presentation. Resources: ISO/IEC17025-2005: General Requirements for Competence of Testing and Calibration Laboratories, Safety and security (Training material of CCSO, 2010), Laboratory Management and technician (.....), MSDS (Sumanto, LIPI).

Syllabi

Name and code of course : Laboratory management (KI-311)
Sks/Smt : 2/5
Compulsory/elective : Compulsory
Lecturer : Prof. Dr. Anna Permanasari, MSi.

Competency Standard:

Understand how to manage laboratory especially chemistry laboratory as a part of a skill that has to had by chemistry graduate.

Basic Competencies:

1. To identify standards related to chemistry laboratory management such as standards for human resources, material and chemical handling, management, organization, waste management, and building design for chemistry laboratory.
2. To handle chemicals based on MSDS regulation



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3. To identify prerequisites to design chemical laboratory
4. To aware the security and safety regulation in laboratory when they enter into chemistry laboratory activities.
5. To practice how to develop quality system of chemistry laboratory on using ISO/IEC 17025:2005 .

Goals:

After the course, student can be able to

1. Identify standards related to chemistry laboratory management such as standards for human resources, material and chemical handling, management, organization, waste management, and building design for chemistry laboratory.
2. handle chemicals based on MSDS regulation
3. make a design of chemical laboratory
4. To practice security and safety regulation in laboratory when they enter into chemistry laboratory activities.
5. To practice how to develop quality system of chemistry laboratory on using ISO/IEC 17025:2005 .

Approach and methods:

Inquiry learning, problem based learning, case study, field visite, self task, and discussion

Assesment:

attendance is a prerequisite for final exam

Task (individual and group task) : (3 tasks)

Mid semester

Final exam

Meeting agenda:

Meeting-1: Overview and make agreement of course

Meeting-2: Standards related to chemical laboratory management (accreditation body for laboratory, activity, and human resources for research, education and measurement laboratories).

Meeting-3: Standards related to chemical laboratory management (accreditation body for laboratory, activity, and human resources for research, education and measurement laboratories).

Meeting-4: Chemical Safety and security (1)

Meeting-5: Chemical Safety and security (2)

Meeting-6: Laboratory Design (1: Field study)

Meeting-7: Waste water Treatment design (Field study)

Meeting-8: Laboratory and waste water treatment design (2: presentation and discussion)

Meeting-9: Handling chemicals based on MSDS regulation

Meeting-10: Mid-Test



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- Meeting-11: Organization in Chemistry Laboratory
Meeting-12: ISO/IEC17025-2005: General Requirements for Competence of Testing and Calibration Laboratories (1)
Meeting-13: ISO/IEC17025-2005: General Requirements for Competence of Testing and Calibration Laboratories (2)
Meeting-15: ISO/IEC17025-2005: General Requirements for Competence of Testing and Calibration Laboratories (3)
Meeting 16: Final exam

References:

1. Training material of CCSO, Bangkok 2010
2. ISO/IEC17025-2005: General Requirements for Competence of Testing and Calibration Laboratories
3. Soemanto (2008): Material Safety data Sheets. Penerbit LIPI. Bandung
4. Chemical Laboratory and technician (2000)