

1. Module XXIII: Biosafety I

1.1. Module Objectives

On completion of this module, the students will be able to

- Summarize the knowledge about work safety in microbiology laboratory (especially) and general biosafety application in life science based industry
- Classify the general danger causes and its precaution
- Identify and classify the levels in security and safety while works in microbiology laboratory
- Predict the danger that will be caused of biology materials in laboratory
- Predict the danger that will be caused of chemical substances in laboratory
- Describe and list the strategies to manage danger potential with various safety equipments
- Apply safety induction to use genetic modified materials
- Define and describe about the understanding of dual use in life science and precautions methods to handle it
- Take part in biological safety and create safety environments in laboratory
- Choose suitable laboratory design based on its levels and function
- Define the management in safety application

1.2. Module Data

Person in charge	Dr. Sri Harjadi Suhardi
Credits	2
Course	BM4201Biosafety
Module examination	Written test

1.2.1. Sub-module I: Biosafety

Lecturer	Dr. Sri Harjadi Suhardi
Semester	8
Type of submodule / course	Compulsory
Credits	2
Workload - class lecture (hr/sem)	2 hours lectures, 2 hours structured activities, 2 hours individual study, 16 weeks per semester, and total 96 hours a semester
Workload details	Textbook reading assignment, group discussion, paper review, presentation

Classification within the curriculum:	General Studies / Compulsory Course/ Elective Course
Type of assessment/examination	Written Test : Midterm exam, Final exam, Assignments Presentation
Language	Bahasa Indonesia
Course Target / Outcome	<p>Students will be able to :</p> <ul style="list-style-type: none"> • Summarize the knowledge about work safety in microbiology laboratory (especially) and general biosafety application in life science based industry • Classify the general danger causes and its precaution • Identify and classify the levels in security and safety while works in microbiology laboratory • Predict the danger that will be caused of biology materials in laboratory • Predict the danger that will be caused of chemical substances in laboratory • Describe and list the strategies to manage danger potential with various safety equipments • Apply safety induction to use genetic modified materials • Define and describe about the understanding of dual use in life science and precautions methods to handle it • Take apart in biological safety and create safety environments in laboratory • Choose suitable laboratory design based on its levels and function • Define the management in safety application
Teaching methods	Interactive Teaching
Contents (SAP)	
	1 Introduction
	2 General Safety
	3 Biosafety lab
	4 Microbiological Safety
	5 Biosafety lab
	6 Safety Equipment
	7 Mid-Term Test
	8 Safety in Biotechnology
	9 Dual Use In science

	10	Accident
	11	Lab Waste Management
	12	Behaviour based safety
	13	Laboratory Design
	14	Biological Safety Management (BSM)
	15	Industrial visit
	16	Final Test
Literature / Sources		<ul style="list-style-type: none"> • Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th edition, L. Casey Chosewood, Deborah E. Wilson, US Government Printing Office, 2007 • Laboratorium Safety: Principle and practices. Fleming et al. ASM Press 1995 • Pedoman Keselamatan Kerja di Laboratorium Mikrobiologi dan Rumah sakit, Sri Harjati dkk, 2008 • Manual of Laboratorium safety, WHO, 2003
Other specialties		

