

Module XXI: Impact and Application IIIA

1.1. Module Objectives

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

- define and describe basic concept of microorganisms-host interaction and host defends mechanism in responses to microorganisms-host interaction
- describe the application of that knowledge that related to development of disease prevention
- define and describe the application of knowledge to discover the pathogenicity of pathogen and defense mechanism to its pathogen
- describe and list diagnostic techniques (not only culture methods but also molecular techniques).
- describe clinical application of those techniques
- choose and Asses the suitable technique for spesific pathogen

1.2. Module Data

Person in charge	Ernawati A.Giri-Rachman, PhD
Credits	3
Course	BM4101 Microbial pathogenesis and immunology
Module examination	Written test

1.2.1. Sub-module I: Microbial pathogenesis and immunology

Lecturer	Ernawati A.Giri-Rachman, PhD
Semester	7
Type of submodule / course	Compulsory
Credits	3
Workload - class lecture (hr/sem)	3 hours lectures, 3 hours structured activities, 3hours individual study, 16 weeks per semester, and total 144 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 examination	written
Language	Bahasa Indonesia
Course Target / Outcome	<p>A. <u>Conceptual Knowledge and Competence:</u></p> <ul style="list-style-type: none">- Explain basic concepts of interactions that occur between microorganisms and the host, and also the host defense system as a response to these interactions.- Explain how to determine the pathogenicity of a particular pathogen.- Explain the development of disease prevention

	<p>B. <u>Scientific Skills:</u></p> <ul style="list-style-type: none"> - Having scientific thinking patterns and the ability to think creatively to solve problems related to microbial pathogenesis - Linking the results of the case study analysis of microbial pathogenicity with the concept of microbiology - Communicating the results of analysts and studies in the form of scientific exposure <p>C. <u>Social Skills:</u></p> <ul style="list-style-type: none"> - Able to work together and communicate in teams
Teaching methods	Interactive Teaching
Contents (SAP)	
1	Introduction: relationship between microorganism and host, and concept related to disease and infection
2	Normal flora
3	Basic concept of immunology
4	Innate immunity and defense system in body surface
5	Innate immunity- adaptive immune respons
6	Adaptive immune respons
7	Mid-Term Test
8	Adaptive immune respons and its relation to innate immunity
9	Bacteria phatogenesis
10	Bacteria phatogenesis
11	Viral phatogenesis
12	Viral phatogenesis
13	Manipulation immune response against infection
14	Presentation I
15	Presentation II
16	Final Test
Literature / Sources	<ul style="list-style-type: none"> • Janeway, C.A. 2012. Immunology, The Immune System in Health and Diseases, Garland Science Publ 8th ed., New York • Salyers and Whitt. 2010. Bacterial Pathogenesis, a Molecular Approach, 3rd ed, ASM Press, Washington. • Madigan, M. T., J. M. Martinko & J. Parker, 2006. Brock Biology of Microorganisms, 11th ed. Pearson Prentice Hall International, Inc., New Jersey • Flint SJ, Enquist LW, Krug RM, Racaniello VR, Skalka AM. 2009. Principles of Virology, ASM Press
Other specialties	