

UNIVERSITAS NEGERI YOGYAKARTA

FACULTY OF MATHEMATICS AND SCIENCE DEPARTMENT OF BIOLOGY EDUCATION

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Bachelor of Science in Biology

MODULE HANDBOOK

Module name:	Laboratory Work in Immunology				
Module level, if applicable:	Undergraduate				
Code:	BIO6233				
Sub-heading, if applicable:	-				
Classes,if applicable:	-				
Semester:	Even				
Module coordinator:	Dr. Heru Nurcahyo				
Lecturer(s):	Tri Harjana, M.P				
Language:	Bahasa Indonesia				
Classification within the curriculum:	Compulsory Course				
Teaching format / class hours	100 minutes lectures, 120 minutes structured activities, and 120				
per week during the semester:	minutes individual studyper week				
	Total workload is 91 hours per semester which consists of 100				
Work load:	minuteslectures, 120 minutes structured activities, and 120 minutes				
	individual study per weekfor 16 weeks.				
Credit points:	2 SKS (3 ECTS)				
Prerequisites course(s):	General Biology				
Perogram Learning Outcomes:	 4. Comprehensively mastering Biology (core biology) to solve problems in the field of Biology (problem-solving) and to underlie the concepts of related sciences 6. Being adaptive, creative, innovative in applying the concepts of Biology and other related fields 9. Being able to work and create jobs/being an entrepreneur in the field of Biology 11. Possessing scientific skills to support the ability to speak in local, national, and international forums 				
Course Outcomes	After taking this laboratory works, the students have ability to: CO1. Identify the concept ABO blood test to understanding the antigen and antibody how it works CO2.Understand the concept of the pregnancy test using anti β-hCG to understanding the antigen and antibody how it works CO3. Elaborate the recent development of <i>Radioimmunoassay</i> (RIA) methods CO4. Elaborate the recent development of <i>Enzyme Linkage Immunosorbent Assay</i> (<i>ELISA</i>) methods CO5. Apply Immuno Histological-Cytological" or "Immunohisto-				

	cytochemistry" Methods							
	 CO6. Elaborate molecular structure of Immunoglobulin (Ig) Model for Immunology Research CO7. Communicate the Individual Projects about Immunology researchs CO8. Explain the concept, source and effect of recombinant vaccination 							
	CO9. Apply the concept of antigen binding site (ABS) and its implication							
	CO10. Elaborate the concept of structure and function of molecule Immunoglobulin (Ig) and its implication CO11. Describe the definition, stages and roles of auto immune disease analyses CO12. Communicate the result of monoklonal antibody (MoAb) study							
		work of Immunol	ogy provide the	e problems				
		en biophysic envir						
		oment, technology, r						
Content:	and short term solu		, 3	- 61				
		•	some bidang keh	idupan dan				
	Immunology and its application in some bidang kehidupan dan produk-produk yang dihasilkan							
	The final mark will	be weight as follow	/ :					
	No CO	Assessment	Assessment	Weight				
		Object	Technique	Weight				
Ctu day/ayama ahi ayama anta.	1 CO1 to	Observed	Survey,	100%				
Study/examachievements:	1 CO1 to CO12			100%				
Study/examachievements:		Observed attitudes , knolwedge, and	Survey, test, rubrics and	100%				
Study/examachievements:		Observed attitudes ,	Survey, test, rubrics and manuals					
Study/examachievements:		Observed attitudes , knolwedge, and	Survey, test, rubrics and	100%				
·	CO12	Observed attitudes , knolwedge, and skills	Survey, test, rubrics and manuals					
Study/examachievements: Forms of media:	Real objects, mode	Observed attitudes , knolwedge, and skills	Survey, test, rubrics and manuals Total	100%				
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	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11
CO1				✓							
CO2				✓							
CO3				✓							
CO4				✓							
CO5				✓							
CO6				✓		✓					
CO7				✓		✓					
CO8				✓		✓					
CO9				✓		✓					
CO10				✓		✓					
CO11				✓		✓			√		
CO12											√