

THE MODULE HANDBOOK

Magister Biology Study Program FACULTY OF BIOLOGY

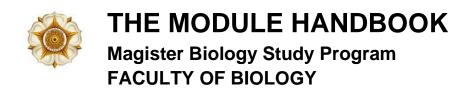
ANALITICAL BIOCHEMISTRY

Course code	BIMB202111
Course level	Magister
Semester/ term	Odd and Even
Course coordinator(s)	Dr. Rarastoeti Pratiwi, M.Sc.
Lecture(s)	Dr. Yekti Asih Purwestri, M.Si. Dr. Tri Rini Nuringtyas, M.Sc. Dr. Woro Anindito Sri Tunjung, M.Sc. Prof. Dr. L. Hartanto Nugroho, M.Agr.Sc.
Language	Indonesian
Classification within the Curriculum	Compulsory for Biomedical Concentration
Teaching format/ class hours per week during the semester	This course is organised into one classes and planned to have 14 teaching weeks and 2 weeks of examination.
Workload	Estimated working hour: 2credits of theory and 1 credit of laboratory work.
Credits	2-1 credits
Requirements	-
Program Learning Outcome	CPL K2: appropriate biological research methods (knowledge); CPL GS2: make decisions in solving biological problems based on analytical or experimental studies and critical analysis of information and data (General Skills)
Course Learning Outcome	 Students have knowledge and understanding of the relationship between facts and concepts, principles, and theories both from the basic principles of biochemistry in order to understand and analyze biomolecules more comprehensively to reveal biological phenomena. Students can analyze and solve problems and can integrate and evaluate information and data on the analysis of biomolecules in living things from various sources. Students are skilled in using libraries, communicating effectively, both written, oral and with tables and figures as well as using communication and information technology, especially in the field of analytical biochemistry as well as applying and integrating several

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	methods of biomolecular analysis into biological science and its branches.						
	4. Students have a basic curiosity, appreciate the originality of ideas,						
	concepts and discoveries, views and other opinions that are interdisciplinary in exploring, utilizing and conserving natural						
	resources, as well as being sensitive to changes and biological						
	problems in the global/regional/local scope.						
Course Description	This course discusses the understanding of biomolecular analysis including sample preparation, including the accuracy and precision of measurements; understanding of acid base, buffer system and pH						
	meter; cell homogenization and dialysis; extraction, fractionation and						
	analysis of bioactive compounds; as well as isolation and purification of DNA, RNA and protein, as well as labeling and sequencing of						
	radioisotopes. In addition, it also discussed advanced understanding						
	of centrifugation techniques, spectroscopy, and various chromatography: gel filtration, ion exchange chromatography,						
		ger miration, atography, a			chroma natograp		
	electrophoresis; a	nd Polymerase	Chain R	eaction (PCR). To	improve	
	the ability and						
	Biochemistry prac Assistance and Ir						
	assignments are ir	n the form of qu	ıizzes, su	mmarizin	g lecture	material,	
	mid-semester and						
	assignments are in the form of preliminary tests, pre-tests and						
					sis, pie-i	ests and	
Assessments	reporting for each Assessments	practicum eve	nt and re		CPMK	CPMK	
Assessments	reporting for each		nt and re	sponses			
Assessments	Assessments Component	Percentage (%)	nt and re	CPMK 2	CPMK 3	CPMK 4	
Assessments	reporting for each Assessments Component Project/Practical	Percentage	nt and re	sponses CPMK	СРМК	СРМК	
Assessments	Assessments Component	Percentage (%)	nt and re	CPMK 2	CPMK 3	CPMK 4	
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and Identification of Bioactive Compounds from Plant Extracts. MDPI (e-journal).