

Genetics

Module name		Genetics				
Module level		Second year of Bachelor program				
Abbreviation, if applicable						
Sub-heading, if applicable						
Courses included in the module, if applicable		BI-2105 Genetics				
Semester/term		1 st Semester				
Module coordinator(s)		Dr. Sony Suhandono				
Lecturer(s)		Dr. Adi Pancoro dan Dr. Fenny Dwivany				
Language		Indonesian				
Classification within the Curriculum		Compulsory courses for Bachelor Program in Biology				
Teaching format/ class hours per week during the semester		2 parallel classes consists of 40 students / class: 1) Lecture (Face to face lecture): 3 hours x 14 weeks 2) Practical class: 3 hours x 14 weeks				
Workload	Total Workload	192 hours; 4(1) CU				
		Face to face teaching	Structured activities	Independent study	Exam	Total
	Lecture	42	42	42	4	130
	Practical class	42	10	10	4	62
	Total				192	
Credit points		Genetics 4(1) CU				
Requirements						
Content	<ol style="list-style-type: none"> 1. Mendel's Law & extension of Mendel 2. The Chromosome theory: mitosis, meiosis, linkage, recombinant and mapping of genes on chromosome 3. What genes are and what gene do: DNA as genetic material, model DNA, DNA store information, replication DNA, mutation of gene, gene expression-transcription and translation 4. Genome: cloning fragment DNA 5. How gene are regulated: gene regulation in prokaryotes, operon concepts 6. Population genetics 					
Learning goals/ competencies	<p>After completion of this module students are expected to be able to:</p> <p>Knowledge :</p> <ul style="list-style-type: none"> • Describe and analyze the principle & mechanism of heredity • Describe and analyze gene mutation • Describe how is gene regulated <p>Skill:</p> <ul style="list-style-type: none"> • Observe mechanism of heredity and principle of gene mutation and expression analyzes (practical skill). • Search for and present relevant information from scientific publications dealing with heredity issues <p>Competences :</p> <ul style="list-style-type: none"> • Interpret and apply the concepts of heredity 					
Study/exam achievements	<i>Lecture (75%); Practical class (25%)</i>					
		<i>Midterm exam</i>	<i>Final exam</i>	<i>Assignment/ Presentation</i>	<i>Total</i>	
	<i>Lecture</i>	35%	40%	25%	100%	
<i>Practical</i>	35%	40%	25%	100%		
Forms of media	<i>Classical teaching tools:</i>	<i>white board/ chalk and talk</i>				
	<i>Integrated teaching tools:</i>	<i>-</i>				
	<i>Digital teaching tools:</i>	<i>Film, animation, power point</i>				
	<i>Problem based teaching</i>	<i>Journal</i>				

	<i>tools:</i>	
Literature	<i>D. P. Snustad & M.J. Simmons (2012) Genetics, 6th Ed., John Wiley & Sons, Inc.</i>	