

Animal Anatomy and Physiology

Module name		Animal Anatomy and Physiology				
Module level		2 nd year of Bachelor program				
Abbreviation, if applicable						
Sub-heading, if applicable						
Courses included in the module, if applicable		BI2102 Animal Anatomy and Physiology				
Semester/term		3 rd Semester				
Module coordinator(s)		Dr. Anggraini Barlian				
Lecturer(s)		Dr. Ahmad Ridwan Dr. Lulu L Fitri				
Language		Indonesian				
Classification within the Curriculum		Compulsory courses for Bachelor Program in Biology				
Teaching format/ class hours per week during the semester		<p><i>2 parallel classes consists of 40 students / class:</i></p> <p><i>Lecture (Face to face lecture): 100%</i></p> <ul style="list-style-type: none"> • Lecture : 4 hours x 14 weeks • Assignment : Student class presentation/group (4-5 students/group) : 7 hours/semester 				
Workload	Total Workload	192 hours; 4 CU				
		Face to face teaching	Structured Activities	Independent study	Exam	Total
	Lecture	56	64	66	6	192
Credit points		<i>Animal Anatomy and Physiology (4 CU)</i>				
Requirements		<i>Fundamental Biology; Basic sciences (Math, Physics, Chemistry)</i>				
Content	<ol style="list-style-type: none"> 1. Introduction to unifying concepts of animal structure and function; a structural hierarchy in animal: cells, tissues, organs, and organ systems; basic physiological principles include homeostasis and feedback control. 2. Study of four main types of animal tissues: epithelial, connective, muscle, and nervous tissues. 3. Study of anatomical structure and the physiological functions of body systems 4. The interrelationships within and between anatomical and physiological systems of the animal body 5. In-depth understanding of animal anatomical and physiological principals to face challenges vary in relation to the animals' environment, and the processes by which animals deal with these challenges. 					

Learning goals/ competencies	<p><i>After completion of this module students are expected to be able to:</i></p> <p>Knowledge :</p> <ul style="list-style-type: none"> • Describe the basic principles of the major animal anatomical and physiological systems • recognize and explain the interrelationships within and between anatomical and physiological systems of the animal body • define an appropriate terminology to effectively communicate information related to anatomy and physiology • recognize the anatomical structures and explain the physiological functions of body systems • recognize and explain the principle of homeostasis and the use of feedback loops to control physiological systems in the animal body • identify real-world situations, including healthy lifestyle decisions and homeostatic imbalances • identify and describe structural differences of major physiological systems that characterize different taxonomic groups of animals. <p>Skill:</p> <ul style="list-style-type: none"> • use anatomical knowledge to predict physiological consequences • use knowledge of function to predict the features of anatomical structures • Interpret graphs of anatomical and physiological data <p>Competences :</p> <ul style="list-style-type: none"> • develop an understanding of current research topics in animal physiology using the primary literature and to develop research questions and methodology to address these questions, • develop critical thinking skills and be able to apply physiological concepts and principles at the basic and applied levels, • Comprehend and appreciate important physiological challenges that animals face, how those challenges vary in relation to the animals' environment, and the processes by which animals deal with these challenges. 	
Study/exam achievements	<p><i>Lecture (100%):</i></p> <ul style="list-style-type: none"> • <i>Midterm exam 1: 20%</i> • <i>Midterm exam 2: 20%</i> • <i>Final exam: 35%</i> • <i>Quizzes: 5%</i> • <i>Student class presentation: 20%</i> 	
Forms of media	<i>Classical teaching tools:</i>	<i>white board/ chalk and talk, power point, animation</i>
	<i>Integrated teaching tools:</i>	
	<i>Digital teaching tools:</i>	<i>Video</i>
	<i>Problem based teaching tools:</i>	-
Literature	<ol style="list-style-type: none"> 1. Kent, G.&Carr, R.2000. Comparative Anatomy of the Vertebrates. 9th ed. McGraw-Hill Science/Engineering/Math. 2. Martini, F.H. & Bartholomew, E.F. 2000.Essentials of Anatomy & Physiology, 2nd ed. Prentice Hall International, Inc. New Jersey. 3. Sherwood, L., Klandorf, H., & Yancey, P.H. 2005. Animal Physiology : From Genes to Organisms. Thomson. Brooks/Cole. Australia. 4. Elaine N. Marieb. 2003. Essentials of Human Anatomy & Physiology. 7th edition. Pearson Education, Inc. publishing as Benjamin Cummings. 	