MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN **FACULTY OF MATHEMATICS AND NATURAL SCIENCES** **BACHELOR OF BIOLOGY PROGRAMME**	**COURSE CODE:** **D10D-60109**
Module designation	Neuroendocrinology	
Semester(s) in which the module is taught	6	
Person(s) responsible for the module	1. Dr. Desak Made Malini 2. Nining Ratningsih, MIL	
Medium of instruction	Indonesian	
Relation to curriculum	Elective course	
Teaching methods	Lectures, discussions, cooperative learning, project basaed learning and inquiry learning	
Workload	Total workload : 5440 minutes = 90.67 hours Lectures, discussions, cooperative learning, and inquiry learning : 2 x 50 minutes x 16 weeks = 1600 minutes = 26.67 hours Exercises : 2 x 60 minutes x 16 weeks = 1920 minutes = 32 hours Self-study : 2 x 60 minutes x 16 weeks = 1920 minutes = 32 hours	
Credit points	2,00 (3,62 ECTS)	
Required and recommended prerequisites for joining the module	Animal Structure and Physiology	
Module objectives/intended learning outcomes	1. Able to understand the scientific scope of neuroendocrinologists 2. Able to explain the concept of growth and development of the nervous system 3. Able to explain about Neuroanatomy and structure of vertebrate nerves and neuron transmission 4. Able to explain the comparative anatomy of the vertebrate brain and the hormone system in vertebrates 5. Able to explain about the structure and function of the hypophysis gland 6. Able to explain the structure function and development process of the thyroid gland, pathophysiology and comparison with other species 7. Able to explain the structure, function, metabolism and relationships that occur due to dysfunction of the pancreas gland and can distinguish the function of the pancreas gland in animals in the taxon 8. Able to explain the structure, function, hormones and physiological effects and the concept of stress in general on the medulla, cortex and interregnal as well as the structure and function of the pineal gland 9. Able to explain about sexual reproduction, gonads, structure and reproductive hormones and their regulatory mechanisms.	
Contents	This course covers the basic principles of neuroendocrinology, including its scientific scope, the growth and development of the nervous system, and the neuroanatomical structure of vertebrates, with an emphasis on neuronal transmission mechanisms. The course covers the comparative anatomy of the vertebrate brain, the vertebrate endocrine system, and the structure and function of the pituitary gland as the link between the nervous and endocrine systems. It also discusses the role of the hypothalamus in integrating endocrine, behavioral, and autonomic nervous system functions, including their pathophysiological aspects, as well as an in-depth exploration of the thyroid, pancreas, and adrenal glands (medulla, cortex, and interrenal tissue).	
Examination forms	Quiz, midterm exam, assignment, and final exam	
Study and examination requirements	The minimum attendance in lectures is 80%. Final grades are evaluated based on quiz (10%), midterm exam (15%), assignment (10%), final exam (15%), project and participation (50%)	
Reading lists	1. Gilbert, S.F. 2000. Developmental Biology, 6th ed. Sunderland: Sinauer Associates, Inc. 2. Johnson, M. & B. Everitt. 1988. Essential Reproduction, 3rd ed. Oxford: Blackwell Scientific Publications 3. Sadler, T.W. 1990. Langmans medical Embriology. 6 th ed. Baltimore Mariland: Williams & Wilkins 4. Carlson, B. M. 1996. Patten's foundations of embryology, 6th ed. New York: McGraw-Hill, Inc 5. Martini F. 1989. Fundamentals of Anatomy and Physiology. Prentice Hall International Edition. 6. Turner, C.D. & Joseph T.B. 1976. Endokrinologi Umum. Airlangga University Press 7. Fliers, E., Korbonits, M., & Romijn, J. A. (Eds.). (2019). *Neuroendocrinology: Pathophysiology and management*. Springer. 8. Swearingen, B., & Biller, B. M. K. (Eds.). (2022). *Clinical neuroendocrinology* (4th ed.). Elsevier.	