Module designation	Entomology
Module level, if applicable	Undergraduate
Code, if applicable	NBIOUM6366
Subtitle, if applicable	-
Courses, if applicable	-
Semester(s) in which the module is taught	Odd semester
Person responsible for the module	Sofia Ery Rahayu, S.Pd., M.Si
Lecturer	Sofia Ery Rahayu, S.Pd., M.Si Farid Akhsani, S.Si., M.Si
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, elective, 5th semester.
Type of teaching, contact hours	Undergraduate degree program: cooperative learning, presentation, laboratory work, 2 x 50 = 100 minutes and 1 x 170 minutes
Workload	1. Lectures: 2 x 50 = 100 minutes (1,67 hours) per week. 2. Exercises and Assignments: 2 x 60 = 120 minutes (2 hours) per week. 3. Private study: 2 x 60 = 120 minutes (2 hours) per week. 4. Laboratory work: 1 x 170 minutes (2.83 hours) per week.
Credit points	3 credit points (~5 ECTS-eq)
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to be eligible for the final examination.
Recommended prerequisites	NBI M6118 (*Animal Diversity*)
Module objectives/intended learning outcomes	Students are able to: (LO4) Apply basic concepts, principles and procedures of biology to design investigations as an effort to solve problems in the health, food and environment sectors using technological applications
Course Learning Outcome	1. Understanding the concept of insect/insect classification 2. Describing the external characteristics of insects 3. Describing the internal characteristics (anatomy and physiology) of insects 4. Describing the development and life cycle of insects 5. Describing insects and their environment

	6. Describing the role of insects in human life 7. Classifying insects based on observations in the field	
Content	This course covers the following main topics: ● Classification of insects / insects, ● The external and internal characteristics of the insect and the internal (anatomy and physiology) of the insect, ● The development and life cycle of insects, ● The relationship between insects and their environment, ● The role of insects in human life, ● Classification of insects based on observations in the field	
Learning Activity	Week 1:	Semester Plan Review
	Week 2	The concept of classification and taxonomy of insects based on morphology and DNA barcodes, followed by observations of insect morphology in general in the surrounding environment
	Week 3	The structure of the insect's outer body includes the division of the insect's body, body armor or cuticle and segmentation of the insect's body, morphological characteristics of insect wings, followed by practicum on making dry and wet preserves.
	Week 4	The anatomy and physiology of insects includes the digestive system and the circulatory system, followed by observing the types of insect larvae and pupae in the surrounding environment
	Week 5	The anatomy and physiology of insects includes the respiratory system and the muscular system, followed by observing the life cycle of insects in the surrounding environment
	Week 6	The anatomy and physiology of insects includes the excretory system and body fat, followed by observations of the Apterygota subclass in the surrounding environment
	Week 7	The anatomy and physiology of insects includes the sensory system and the nervous system, followed by observations of the Odonata Order in the surrounding environment
	Week 8	MIDTERM EXAMINATION
	Week 9	The anatomy and physiology of insects includes the endocrine system and reproductive system, followed by observations of the Order Dictyoptera and Orthoptera in the surrounding environment.
	Week 10	Embryology and post-embryological development of insects (metamorphosis), followed by observations of the Hemiptera Order in the surrounding environment

	Week 11	The relationship between insects and insects and the environment, followed by observations of the Hemiptera Order in the surrounding environment
	Week 12	The role of insects that are beneficial and detrimental to humans, followed by observations of the Order Coleoptera and Hymenoptera in the surrounding environment
	Week 13	Describe the identification key for the Order level, followed by observations of the Order of Diptera and Lepidoptera in the surrounding environment
	Week 14	Classifying insects found in the field (theoretical group assignment with the same habitat)
	Week 15	Independent Task Presentation
	Week 16	FINAL EXAMINATION
Study and examination requirements and forms of examination	Assignment (25%) Midterm examination (25%) Final examination (25%) Performance (25%)	
Media employed	LCD, power point, white board, video and moodle (Sipejar)	
Reading list	1.. Elzinga, R.J. 2004. *Fundamental of Entomology*. 6th Edition. New Jersey: Pearson Education. 2. Gillot, C. 2005. *Entomology*. 3rd Edition. Netherland: Springer. 3. Lilis S., Christina (ed). 1991. *Kunci Determinasi Serangga*. Yogyakarta: Penerbit Kanisius. 4. Kalshoven, L.G.E. 1981. *Pest of Crops in Indonesia*. Jakarta: P.T. Ichtiar Baru-Van Hoeve. 5. Romoser, William S. 1978. *The Science of Entomology*. New York: Macmillan Publishing Co., Inc. 6. Borror, DJ, Triplehorn, CA, Johnson, NF. 1996. *Pengenalan Pelajaran Serangga*, terjemahan oleh Partosoedjono, S. Yogyakarta: Gadjah Mada University Press. 7. Hidayat, O., Sutarno, N., Suhara, dan Sanjaya, Y. 2004. *Dasar-dasar Entomologi*. Bandung: Universitas Pendidikan Indonesia.	
Date of last amendment made	January, 2022	