



THE MODULE HANDBOOK

FACULTY OF BIOLOGY

Helminthology

Module code	BIO 21304
Module level	Undergraduate
Abbreviation, if applicable	-
Sub-heading, if applicable	-
Courses included in the module, if applicable	-
Semester/ term	Odd
Module coordinator(s)	Soenarwan Hery Poerwanto, S.Si., M.Kes.
Lecture(s)	1. Soenarwan Hery Poerwanto, S.Si., M. Kes. 2. Dra. Rr. Upiek Ngesti Wibawaning Astuti, DAP.&E., M.Kes. 3. Dila Hening Widyarini, S.Si., M.Sc.
Language	Indonesia
Classification within the Curriculum	Elective course
Teaching format/ class hours per week during the semester	This course consists of 2 credits of theory and 1 credit of practice and is planned to have 13 to 14 learning weeks excluded midterm and final examination. Evaluation of laboratory work will be held in the end of laboratory work schedule. The capacity of classroom should be for 40-50 students. The material will be delivered with combined between SCL, TCL, and case study.
Workload	Estimated working hour: 9 hours/week
Credit points	2-1 credits
Requirements	Animal Systematics (BIO 31101)
Learning goals/ competencies	1. Work ability <ol style="list-style-type: none">Plan, implement, analyze, and report on the experimental scientific / research in the field Helminthology.Using information and communication technology in learning.Working in groups in the laboratory and field. 2. Mastery of knowledge <ol style="list-style-type: none">Understand the basic concepts of helminths (worms) diversity and its role in the ecosystem.



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	<ul style="list-style-type: none">b. Mastering and applying scientific methods in the field of Helminthology.c. Analyze and solve a problem and to develop problem-solving design and research activities about helminthes. <p>3. Authority and responsibility</p> <ul style="list-style-type: none">a. Perform based communications technology effectively, whether written, oral, and with images relating Helminthology.b. Implement and integrate a branch of biology (especially Helminthology) into another branch.c. Able to anticipate problems in the field Helminthology.
Content	<p>Helminthology (BIO 21304) to learn about the animals that belong to the helminthes (Vermes / worm): Platyhelminthes, Nematelminthes, Acanthocephala, Annelid that includes morphology and anatomy related to the structure and function, classification, physiology (digestive system, circulatory, respiratory, nervous, reproductive), life cycle and ecology, the role of human life (benefits and losses caused), Immunohelminthology, as well as learn how the collection, preservation, culture and identification that is used as a cornerstone in the development of applications. Helminthology starter molecular biology. Helminthology an elective courses for students of Biology Faculty. Students are required to attend classes with weights 2 credits and laboratory work with weights 1 credit to increase knowledge and skills in dealing with helminthes. This course consists of 13 subjects with the number of meetings 14-16 times per semester. Learning methods by implementing Student Centered Learning (SCL) combined with the Student Teacher Aesthetic Role-Sharing (STAR) with improved interactive communication between teacher and students and a teacher as a facilitator and partner learning for students in a harmonious atmosphere. STAR also apply patrap Three Realms, namely Ing ngarsa sung tuladha (exemplary), Ing Madya Mangun Karsa (empowering and motivating) and Tut Wuri Handayani (control and motivate that students succeed).</p>
Study/ exam achievements	<p>1. Theory</p> <ul style="list-style-type: none">a. Midterm: 35%b. Final examination: 35%c. Presentation, attendance and activity: 30% <p>2. Laboratory Work</p> <ul style="list-style-type: none">a. Weekly test: 20 %b. Laboratory activity: 10 %c. Laboratory report: 40 %d. Final test: 30 %



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Forms of media	White board, LCD and Atlas of Helminthology
Literature	<ol style="list-style-type: none">1. Kozloff, E.N. 1990. Invertebrate. Sounders Collage Publishing Philadelphia New York.2. Edward, C.A. and J.R. Lofty. 1977. Biology of Earthworm. Champman and Hill, London.3. Schmidt, G.D. and L.S. 2000. Foundation of Parasitology. Sixth Ed. International Ed.4. Kierzenbaum, F. 1994. Parasitic Infections and The Immune System. Academic Press. Inc. San Diego - New York - Beston - London - Sydney - Tokyo - Toronto.5. Dropkins, V.H. 1989. Introduction to Nematology. Gama Press UGM, Jogjakarta.6. Mei, W.F. 1968. Pictoreal Key to General of Plant Parasitic Nematodes. Third Revision Art of Ithaca Inc., New York.7. Northon, C.O. 1978. Ecology of Plant Parasitic Nematodes. A Willey Inter Science.8. Abbas, K.A., Lichtman, A.H. and Pober, J.S. 2000. Celluler and Moleculer Immunology. W.B. Saunders Company, New York.9. Ogra, P.L. Mestecky, J., Lamm, ME., Strober, W.Mc.Ghee,JR., Bienenstock, J. 1994. Handbook of Mucosal Immunology, academic Press, Inc. New York.10. Subba Rao, N.S. 1975. Soil Microorganism and Plant Growth. Oxford and IBH Publishing Co. Malabar-Florida.11. Anwar, C. dan Murshal, Y. 1989. Atlas Parasitologi Kedokteran. Edisi II. Penerbit Hipokrates, Jakarta.