

Bachelor of BiologyEmail: biologi_fmipa@um.ac.idWebsite: http://biologi_fmipa.um.ac.id/**MODULE HANDBOOK**

Module designation	Parasitology
Module level, if applicable	Undergraduate
Code, if applicable	NBIOUM6333
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 Nur'aini Kartikasari, S.Si., M.Sc.
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 = 150 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. Laboratory work: 1 x 170 minutes (2.83 hours) per week. 4. Private study: 2 x 60 = 120 minutes (2 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	NBIOUM6108
Module objectives/intended learning outcomes	Students are able to: (LO3) Master basic biological theoretical concepts in an integrated manner using logical, critical, systematic and innovative thinking through the science and technology approach to analyze various problems in the field of biology.

Course Learning Outcome	1. Mastering the concepts, principles and procedures for diagnosing a parasitic disease from clinical symptoms in samples in the field of parasitology. 2. Applying concepts, principles and procedures of parasitology which include: etiology, life cycle, pathology, infective stage, host, prevalence, epidemiology, diagnosis, and therapy; 3. Applying basic knowledge of parasitology for disease prevention by parasitic animals and responsible control.	
Content	This course covers the following main topics: • Parasitology concepts and principles (etiology, host, prevalence, infective stage, diagnosis, pathology, epidemiology, therapy); Parasitic rhizopods (amoebiasis); Parasitic ciliates (giardiasis, trichomoniasis), parasitic flagellates (trypanosomiasis, leishmaniasis); Parasitic sporozoa (malaria), parasitic sporozoa (toxoplasmosis); Parasitic nemathelminthes (ascariasis, trichuriasis, ankylostomiasis); Parasitic nemathelminthes (filariasis, elephantiasis); Parasitic trematodes (fascioliasis, schistosomiasis); Parasitic cestodes (taeniasis); Parasitic arthropods (as agents and / or vectors).	
Learning Activity	Week 1	Understanding some relationships between organisms, hosts, vectors, zoonoses, prevalence, intensity, epidemiology, etiology
	Week 2	Etiology Nemathelminthes parasites (ascariasis, trichuriasis, ankylostomiasis, filariasis, elephantiasis): life-cycle, predilection, pathology, infective stage, host, prevalence, epidemiology, diagnosis and therapy, and their role in human life Observing and analyzing various samples of worm eggs obtained from vegetable samples so as to determine and communicate the stages of worm eggs found.
	Week 3	Etiology Nemathelminthes parasites (ascariasis, trichuriasis, ankylostomiasis, filariasis, elephantiasis): life cycle, predilection, pathology, infective stage, host, prevalence, epidemiology, diagnosis and therapy, and their role in human life.
	Week 4	Etiology Thematic parasites (fascioliasis, schistosomiasis): life cycle, predilection, pathology, infective stage, host, prevalence, epidemiology, diagnosis, and therapy, and their role in human life Observing and analyzing various samples of helminth eggs obtained from goat bile samples and

		field snails so as to determine and communicate the egg and larvae of worms found.
	Week 5	Etiology of parasitic cestodes (taeniasis): life cycle, predilection, pathology, infective stage, host, prevalence, epidemiology, diagnosis, and therapy, and their role in human life Observing and analyzing various samples of worm eggs obtained from free-range chicken intestine samples so as to determine and communicate the stages of eggs and larvae of worms found.
	Week 6	Arthropods as parasitic agents and vectors of parasites
	Week 7	REVIEW
	Week 8	MIDTERM EXAMINATION
	Week 9	Etiology Rhizopoda parasitic (amoebiasis): life cycle, predilection, pathology, infective stage, host, prevalence, epidemiology, diagnosis, and therapy, and their role in human life Observing and analyzing dry preparations of amoebiasis so that it can determine and communicate the stage of Amoeba found
	Week 10	Etiology Ciliates parasite (Balantidiasis): life cycle, predilection, pathology, infective stage, host, prevalence, epidemiology, diagnosis, and therapy, and their role in human life Observing and analyzing Balantidium preparations obtained from insect intestine samples so as to determine and communicate the stage of Balantidium found.
	Week 11	Etiology of parasitic flagellates (Giardiasis and Trichomoniasis): life cycle, predilection, pathology, infective stage, host, prevalence, epidemiology, diagnosis, and therapy, and their role in human life Observing and analyzing Giardiasis and Trichomoniasis preparations so as to determine and communicate the stage of Giardia and Trichomonas found.
	Week 12	Etiology of parasitic flagellates (Tripanosomiasis and Leishmaniasis), life cycle, predilection, pathology, infective stage, host, prevalence, epidemiology, diagnosis, and therapy, and their role in human life Observing and analyzing Trypanosoma and Leishmania preparations so as to determine and

		communicate the stages of Giardia and Trichomonas found.
	Week 13	Etiology Parasitic sporozoa (malaria and Toxoplasma): life cycle, predilection, pathology, infective stage, host, prevalence, epidemiology, diagnosis, and therapy, and their role in human life Observing and analyzing Plasmodium and Toxoplasma preparations so as to determine and communicate the stages found.
	Week 14	Finding parasitic diseases that reappear (reemerging diseases).
	Week 15	Designing research proposals for disease prevention by parasitic vectors and their control
	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. Hadidjaja P. dan Margono, SS. 2011. Dasar Parasitologi Klinik. Jakarta: FKUI. 2. Kayser F.H., Bienz K.A., Eckert J., and Zinkernagel R.M. 2005. Color Atlas of Medical Microbiology. New York. Thieme 3. Madigan, MT, Martinko, JM, dan Parker, J. 2014. Brock Biology of Microorganisms 14th edition. USA: Pearson Education, Inc 4. Gillespie S and Pearson R.D. 2001. Principles and Practice of Clinical Parasitology. John Wiley and Sons Ltd. 5. Levine, Norman D. 1990. Parasitologi Veteriner. Terjemahan Datut Ashadi. Yogyakarta : Gajah Mada University Press. 6. Jeffrey HC, Leach RM. (2009), Atlas Helminologi dan Protozoologi Kedokteran. Terjemahan. Jakarta : EGG Penerbit Buku Kedokteran. 7. Noble, E R dan Noble, GA. 1989. Parasitologi (Parasitologi Parasit Hewan) Terjemahan Wardiarto. Yogyakarta : Gajah Mada University Press. 8. Artikel-Artikel dari Jurnal Parasitologi Indonesia dan Jurnal Internasional.	
Date of class amendment made	January, 2022	