THE MODULE HANDBOOK
FACULTY OF BIOLOGY

Animal Systematics

Module code	BIO 31101
Module level	Undergraduate
Abbreviation, if applicable	-
Sub-heading, if applicable	-
Courses included in the module, if applicable	-
Semester/ term	Even
Module coordinator(s)	Drs. Trijoo, M.Si.
Lecture(s)	1. Drs. Bambang Agus Suripto, S.U., M.Sc. 2. Dra. Siti Sumarmi, Ph.D. 3. Dr. R.C. Hidayat Soesilohadi, M.Sc. 4. Dra. R.r. Upiek Ngesti W.A., DAP & E., M.Biomed. 5. Soenarwan Hery Purwanto, M.Kes. 6. Ratih Aryasari, S.Si., M.Si. 7. Rury Eprilurahman, S.Si., M.Sc. 8. Donan Satria Yudha, S.Si., M.Sc.
Language	Indonesia
Classification within the Curriculum	1. Compulsory 2. This course is a basic course after students took and passed mandatory module which is General Biology. This course is about the study of animal diversity, their characters and classification.
Teaching format/ class hours per week during the semester	1. This course is organised into 2 parallel classes and planned to have 13 to 14 teaching weeks and 2- 3 weeks of examination. 2. Schedule: Monday, 11.15 am – 12.50 pm. 3. Room: IV and V. 4. Delivery style: teacher and student centered learning, and discussion with assignment.
Workload	Estimated working hour: 6 hours/week.
Credit points	3-1 credits
Requirements	General Biology (BIO 10001)
Learning goals/ competencies	**1. Knowledge and understanding** a. Understand the basic principles of animal systematics and their applications. b. Increase the understanding on relationship between systematics and other biology sciences.

c. Understand the theory and practices of taxonomy and also able to use field and laboratory equipment's to support research.
d. Understand the basis concept of evolution and phylogeny.
e. Increase understanding on systematics role in natural living resource management.
f. Increase understanding on professionalism and ethics in systematics practices.

2. Ability/intelectual skill

a. Increase analytical ability in problem solving related with systematics, both in the field and also in the laboratory.
b. Evaluate and intregrate informations and data from various sources.
c. Increase ability to evaluate the revisions of systematics works.

3. Practical skill

a. Applying animal systematics concept in laboratory and field research.
b. Using, integrating and evaluating information and data from many resources to answer the questions of assignments and reports.

4. Managerial and transferable skill

a. Managing time effectively and efficiently to finish any assignments or laboratory practice.
b. Able to compete and cooperate with any discipline of science.
c. Able to communicate ideas and opinion orally or using information technology and communication tools.
d. Able to manage resource effectively and efficiently, working individually and groups in any circumstances/conditions.

5. Attitude

a. Ability to resolve problems and finding resolution which connected to their specialty.
b. Having curiousity on the field of animal systematics.
c. Respect the originality of an idea, concept and other discoveries.
d. Ability to resolve problems and finding resolution which connected to their specialty.
e. Having sense of entrepreneurship.
f. Adaptive to any environment conditions.
g. Professional responsibility and scientific ethic as biological scientist to the scientific progress.

	h. Appreciating the efforts in exploring, exploiting and preserving natural resources
Content	Animal Systematics is a compulsory course on animal diversity, especially in Indonesia. This course covers principles in systematics, theory and practices in animal taxonomy, integrating phylogeny and taxonomy to represent relationships among animals. This course is fundamental for other biological sciences such as genetics, ecology, conservation and animal culture.
Study/ exam achievements	1. **Theory** a. Midterm: 40 % b. Final examination: 40 % c. Presentation, quiz, and home works: 10 % b. Activity and attendance: 10 % 2. **Laboratory work** a. Weekly test: 30 % b. Weekly reports: 15 % c. Thematic reports: 15 % d. Final tes: 40 % The final score formula of course subject: [(3 x theory) + (1 x laboratory work)]/ 4 Score conversion following relative score distribution
Forms of media	Lecture, discussion and assignment presentment using power point presentation. Media which used in the delivery are LCD projector, laptop, eLISA UGM, whiteboard, and worksheet for quizzes.
Literature	1. Ackers, R. *et al*., 2007. *Sponges of the British Isles (Sponge V): a colour guide and working documents*. 2. Beesley, P.L., Ross, G.J.B. & Wells, A. (eds) (1998). *Mollusca: The Southern Synthesis. A Fauna of Australia*. Vol.5. CSIRO Publishing: Melbourne, Part A. 3. Beesley, P.L., Ross, G.J.B. & Wells, A. (eds) (1998). *Mollusca: The Southern Synthesis. A Fauna of Australia*. Vol.5. CSIRO Publishing: Melbourne, Part B. 4. Cogger, H.G. and R.G Zweifel. 2003. *Encyclopedia of Reptiles and Amphibians*. Frog City Press. San fransisco. Pp: 240. 5. Dance, Peter S., 1992. *Shells*. Dorling Kindersley, London. 6. Dorit, Robert L. Warren F walker, Jr., Robert D Barnes. 1991. *Zoology*. Saunders College Publishing. USA. Pp: 236 – 253. 7. Hooper, J.N.A., van Soest, R.W.M. (eds.) 2002. *Systema Porifera: A Guide to the Classification of Sponges*. Kluwer Academic/Plenum Publishers, New York.

8. Iskandar, D.T., 1998. *Amfibi Jawa dan Bali*: Seri Panduan Lapangan. Cetakan pertama, Puslitbang Biologi-LIPI, Bogor. Hal: 1 – 7.
9. Jeffrey, C .1973. *Biological Nomenclature*. 3rd ed. Edward Arnold, London.
10. Kottelat, M., A.J. Whitten, S.N. Kartikasari and S. Wirjoatmodjo. 1993. *Fresh Water Fishes of Western Indonesia and Sulawesi*. Periplus Editions Limited, Jakarta.
11. Lagler, K.F, J.E. Bardach, R.R. Miller, and D.R.M. Passino. 1977. *Ichthyology*, 2nd Edition. John Wiley and Sons Company. Toronto, Canada.
12. Mayr, E . & P.D. Ash. 1991. *Principles of Systematic Zoology*. Mc Graw Hill, Inc. pp.475.
13. Nelson, Joseph S., 2006. *Fishes of The World*. 4th ed. John Wiley & Sons, Inc. New Jersey.
14. Orr, R.T. 1976. *Vertebrate Biology*. 4th ed. W.B. Saunders Company. Philadelphia, USA.
15. Pechenik, J.A. 2000. *Biology of the Invertebrates*. McGraw-Hill Higher Education. Singapore.
16. Pough, F.H., R.M. Andrew, J.E. Cadle, M.L. Crump, A.H. Savitzky, and K.D. Wells. 1998. *Herpetology*. Prentice-Hall, Inc. Upper Saddle River, New Jersey. Pp: 138, 169.
17. Ross, H. H., 1974. *Biological Systematics*. Addison - Wesley Publishing Company, Inc. London, pp. 345.
18. Ruppert, E.E., and R.D. Barnes. 1994. *Invertebrate Zoology*. 6th ed. International Edition. Saunders College Publishing, USA.
19. Saanin, H., 1968. *Taksonomi dan Kunci Determinasi Ikan I dan II*. Penerbit Binatjipta. PD Grafika Unit II – Bandung.
20. Sokal, R.R., 1986. *Phenetic Taxonomy: Theory and methods*. Annu. Rev. Ecol. Syst.17: 423-442.
21. Suwignyo, S., Widigdo, B., Wardiatno, Y., dan Krisanti, M. 2005. *Avertebrata air*. Jilid 1. Penebar Swadaya. Jakarta.
22. Suwignyo, S., Widigdo, B., Wardiatno, Y., dan Krisanti, M. 2005. *Avertebrata air*. Jilid 2. Penebar Swadaya. Jakarta.
23. van Hoesel, J.K.P., 1959. *Ophidia Javanica*. Kementerian Pertanian. Lembaga Pusat Penjelidikan Alam. Museum Zoologicum Bogoriense. Pertjetakan Archipel – Bogor.
24. Veron, J.E.N. 2000. *Corals of the World*, vol. 1,2,3. The Australian Institutes of Marine Science, Queensland.
25. Wiley, E.O.D Siegel-Causey, DR. & V. A. Funk. 1991. *The Complete Cladist: A primer of phylogenetic procedures*. The University of Kansas Museum of Natural History Special Publication No 19. pp. 158.