Module designation	Vertebrate Biology
Semester(s) in which the module is taught	Even/2nd
Person responsible for the module	Dr. Tatag Bagus Putra Prakarsa and Rizka Apriani Putri, M.Sc.
Language	Bahasa Indonesia
Relation to curriculum	Compulsory
Teaching methods	Lecture, project, seminar, exam
Workload (incl. contact hours, self-study hours)	Total workload is 91 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week for 16 weeks.
Credit points	2 SKS (3.2 ECTS)
Required and recommended prerequisites for joining the module	General Biology
Module objectives/intended learning outcomes	PLO-3 PLO-5 PLO-6 PLO-7 PLO-8 PLO-9 PLO-10 PLO-11
Content	This course comprises the study of characteristics of the major groups of vertebrates, their ancestry, history and their relationship to one another. Topics covered will include : Vertebrates' origins and evolutionary history, basic features of vertebrates' body plans (Morphology, anatomy, physiology) , the early radiation of vertebrates such as Agnathans as well as groups of vertebrates that appear later in the geological timeline.
Examination forms	Task, final semester exam, case study, team based project.

Study and examination requirements	The final mark will be weight as follow:

NO	Assessment Techniques	Percentage Weight Assessment (%)	Information
1	Cognitive	50	Maximum assessment weight accumulation 50%
	Task	20	
	Final Semester Exam	30	
2	Participatory	50	Maximum assessment weight accumulation 50%
	Case study	25	
	Team Based Project	25	
	Total	**100**	

Reading list	A. Kissling, W.D., Walls, R., Bowser, A. et al. Towards global data products of Essential Biodiversity Variables on species traits. Nat Ecol Evol 2, 1531–1540 .2018. https://doi.org/10.1038/s41559-018-0667-3. B. Prakarsa, T.B.P., Kurniawan, I.D., Putro, STJ, 2021. Biospeleologi, Biodiversitas, Potensi, dan Permasalahannya. Bintang Pustaka Madani, Yogyakarta. C. Hickman Jr., C.P., Susan L. Keen, Allan Larson, David J. Eisenhour, 2018, Animal Diversity 8th Edition, McGraw-Hill Education. D. Hickman, Jr., C.P, Keen, S., Larson, Allan L., Eisenhour, D., I'Anson, H., Roberts, L., 2020. Integrative Principles of Zoology 18th Edition, McGraw-Hill Education. E. Pough, H.F. , Janis, C.M., 2019. Vertebrate Life 10th Edition. Sinauer Associates. F. Nunes AL, Fill JM, Davies SJ,Louw M, Rebelo AD, Thorp CJ, Vimercati G, Measey J. 2019 A global meta-analysis of the ecological impacts of alien species on native amphibians. Proc. R. Soc. B 286: 20182528. http://dx.doi.org/10.1098/rspb.2018.2528. G. Benson, R.B.J., 2018, Dinosaur Macroevolution and Macroecology, Annual Review of Ecology, Evolution, and Systematics. 2018. 49:1, 379-408. H. Womack MC, Christensen-Dalsgaard J, Hoke KL. Better late than never: effective air-borne hearing of toads delayed by late maturation of the tympanic middle ear structures. J Exp Biol. 2016 Oct 15;219(Pt 20):3246-3252. doi: 10.1242/jeb.143446. Epub 2016 Aug 12. PMID: 27520654. I. Matthew K. Fujita, Sonal Singhal, Tuliana O. Brunes, Jose A. Maldonado. 2020. Evolutionary Dynamics and Consequences of Parthenogenesis in Vertebrates. Annual Review of Ecology, Evolution, and Systematics (IF13.915), Pub Date : 2020-11-02, DOI: 10.1146/annurev-ecolsys-011720-114900. J. White, W.T. and Last, P.R. 2012, A review of the taxonomy of chondrichthyan fishes: a modern perspective. Journal of Fish Biology, 80: 901-917. https://doi.org/10.1111/j.1095-8649.2011.03192.x K. Tobias, JA; Ottenburghs, J; Pigot, AL. 2020. Avian Diversity: Speciation, Macroevolution, and Ecological Function. Annual Review of Ecology, Evolution, and Systematics , 51 pp. 533-560. 10.1146/annurev-ecolsys-110218-025023. L. Schoch, R.R. and Sues, H.-D. 2020. The origin of the turtle body plan: evidence from fossils and embryos. Palaeontology, 63: 375-393. https://doi.org/10.1111/pala.12460. M. Srivastava, A. 2024. A Textbook Of Vertebrate Zoology. A Publishing House. India.