THE MODULE HANDBOOK
FACULTY OF BIOLOGY

Paleontology

Module code	BIO 20003
Module level	Undergraduate
Abbreviation, if applicable	-
Sub-heading, if applicable	-
Courses included in the module, if applicable	-
Semester/ term	Even
Module coordinator(s)	Donan Satria Yudha, S.Si., M.Sc.
Lecture(s)	Rusyad Adi Suriyanto, S.Sos., M. Hum.
Language	Indonesia
Classification within the Curriculum	1. Compulsory 2. This course is an basic course after students took and passed mandatory modules which are Geology and General Biology. This course is about the study of fossils and ancient environment.
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: V. 4. Delivery style: Lecture and discussion with assignment.
Workload	Estimated working hour: 6 hour/week.
Credit points	2-1 credits
Requirements	Geology (TKG 1101)
Learning goals/ competencies	**1. Knowledge and understanding** a. Understanding the basic concept of the earth formation processes, life cycle and introduction to evolution. b. Enhancing student understanding about the basic of paleontology and its relation to biological science. c. Understanding forms of fossil, understand how to read faunal fossil list and systematics study of fossils.

	d. Students understand about fossil diversity, geochronology and faunal fossil. e. Professional responsibility and scientific ethic as biological scientist to the scientific progress. **2. Ability/intelectual skill** a. Planning, conducting and reporting scientific research in the field of Paleontology. b. Analyzing and resolving problems and developing work design on the fossil study. c. Integrating and evaluating information and data from many resources. d. To do holistic approach to resolve problems and making scientific design, applying professional judgment on costs, benefits, risks, security, trusts, aesthetics and environmental impact. **3. Practical skill** a. Planning and conducting scientific research in the field of paleontology. b. Analyzing experimental results and determines its validity. c. Making and presenting technical report scientifically. **4. Managerial and transferable skill** a. Conducting communication effectively, either written, oral or with images. b. Applying the principle of mathematics, chemical, and physics in the paleontology. c. Working in groups. d. Applying and integrating biology into other science branch. e. Learning independently in new and known scientific field. f. Learn effectively for professional development. **5. Attitude** a. Ability to anticipated problems and finding its resolution which connected to their specialty in the field of paleontology. b. High curiosity. c. Respect the originality of an idea, concept and other discoveries. d. Respect the effort of other interdisciplinary field in exploring and conserving any fossil resources.
Content	This course is intended to make our biology student could join in the paleontological community in Indonesia whose member mostly are not from biology. This course learn about the fundamental of paleontology, geology especially quaternary geology, types and fossil preservation, the

	development of paleontology, systematics study of the fossils fauna and flora, and the characters of fossil fauna and flora. This knowledge is imprinted in student transcripts which enhance student's competitiveness in the paleontological field of work, such as in the Museum of Natural History and Museum of Prehistory in Sangiran.
Study/ exam achievements	**1. Theory** a. Midterm: 40 % b. Final examination: 40 % c. Presentation, quizzes and home works: 10 % d. Activity and attendance: 10 % **2. Laboratory work** a. Weekly tests: 25 % b. Weekly reports: 25 % c. Final test: 50 % 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. Aziz, F. 1995. *Pleistocene fauna of Sangiran and Other Hominid Sites in Java. p. 260. In: Sangiran: Man, Culture, Environment in Pleistocene Times*. Yayasan Obor Indonesia, Jakarta. 2. Colbert, E.H. 1980. *Evolution of The Vertebrates*. 3rd edition. John Wiley and Sons, Inc. New York, USA. Pp. 230-243. 3. Hildebrand, M. 1995. *Analysis of Vertebrate Structure*. 4th ed. John Wiley and Sons, Inc. Canada. 4. Kardong, Kenneth V. 2002. *Vertebrates Comparative Anatomy, Function, Evolution*. 3rd edition. Mc.Graw-Hill International edition. 5. Kent, George C.,and Robert K. Carr. 2001. *Comparative Anatomy of The Vertebrates*. 9th edition. Mc.Graw-Hill International edition. 6. Rahardjo, W. 1976. *Sangiran – Geological Field Trip Guide Book*. Indonesian Petroleum Association. 7. Rauf, D.M. & Stanley S.M. 1971. *Principles of Paleontology*. W.H. Freeman Company, inc. San Fransisco. Pp. 16 – 106. 8. Romer, A.S., 1962. *Vertebrate Paleontology*. The Universiy of Chicago Press, Chicago. 9. Schimer, H.W. 1954. *An Introduction to the Study of Fossils*. Eighth printing. Mac Millan Company, USA.

	10. Sukandarrumidi. 1994. *Geologi Sejarah*. Cetakan pertama. Gadjah Mada University Press, Yogyakarta. 11. Sukandarrumidi. 1999*. Diktat Kuliah: Paleontologi*. Jurusan Teknik Geologi, Fakultas Teknik UGM, Yogyakarta. 12. Watanabe, Noutune and Kadar, D. 1985. *Quaternary Geology of the Hominid Fossil Bearing Formations in Java*. Geological Research and Development Centre, Bandung. 13. Matthews, W.H. 1962. *Fossils: An Introduction to Prehistoric Life*. Barnes and Noble, Inc. New York.