SG-2402

MODULE DETAILS	
Module Code:	SG-2402
Module Title:	Aspects of Paleontology
Module Level:	2 (Undergraduate)
Degree/Diploma:	Undergraduate GenNEXT Bachelor degree
Type of Module:	Breadth
Modular Credits:	4
Prerequisite:	None
Anti-requisite:	None
Module Delivery	
Mode of Delivery:	Scheduled weekly classes: 2 hours lecture and 4 hours practical
Semester Offered:	January
Time Commitment:	The total expected student workload is 10 h per week. Contact hours are 6 h per week. Total Time Commitment per semester: 140 h
Module Synopsis:	Fundamental aspects on the evolution of life on Earth and the applications of paleontology.
Programme Leader:	Geology
Contact:	Universiti Brunei Darussalam Faculty of Science, Physical and Geological Sciences, Jalan Tungku Link, Gadong BE1410 Tel: +673 2463001 (ext 1682) Fax: +673 2461502 Email: office.fos@ubd.edu.bn Website: fos.ubd.edu.bn

MODULE AIMS, TEACHING METHODS, ASSESSMENT AND SUPPORT		
Aims:	Basic knowledge on the morphology and geologic range of most common fossils (invertebrates, vertebrates, plants and microfossils) will be acquired, as every experienced geologist need. Teaching classes are integrated with labs, discussions, and critical observations of fossil organisms. Theoretical parts will include systematics of the organisms (vertebrates, invertebrates, microfossils and plants) and study of their associations with other fossils and host sediments.	
Learning Outcomes:	On successful completion of this module, a student will be expected to be able to:	
	Knowledge and Understanding	
	Lower order: 50%	- understand the fundamentals of the fossil record and its usefulness in different applications like biostratigraphy, paleoecology, paleogeography - familiarise themselves with the basics of taxonomy
	Application and Analysis	
	Middle order: 30%	- apply the gained knowledge in practical cases - infer about the paleoecology and functional morphology of extinct organisms by interpreting their distribution, taphonomy and ichnology - apply principles of Biostratigraphy for the reconstruction of environments
	Evaluation & Synthesis, Competence, Communication, and Values & Attitude	
	Higher order: 20%	- correlate observations and information from different environments - work alone or in collaborative teams on given samples

<table>
<tr><td>Module Content:</td><td colspan="2">- Introduction to fossil organisms, geological time scale, mass extinctions and evolutions
- Taxonomy and systematic study of fossils; trace fossils; microfossils; invertebrates; vertebrates
- Taphonomy and Actuopalaeontology
- Fossils and palaeoenvironments and microfacies analyses</td></tr>
<tr><td colspan="3">Teaching methods</td></tr>
<tr><td rowspan="4">Details of teaching and learning activities:</td><td colspan="2"></td></tr>
<tr><td colspan="2">Allocation of Teaching and Learning Activities</td></tr>
<tr><td>Tutorials:</td><td>2 hours per week, in the Geology Classroom</td></tr>
<tr><td>Laboratory/ Practicals:</td><td>4 hours per week, 56 hours in total, in the Geology Classroom</td></tr>
<tr><td>Fieldtrips:</td><td>4 hours during the last two weeks of the semester.
Locations: Ambug Hill, Jalan Tutong, Penanjong beach, etc.</td></tr>
<tr><td colspan="3">Assessment tasks</td></tr>
<tr><td rowspan="3">Details and type of assessments on this module:</td><td>Formative assessment</td><td>Weekly practical tests and essays will be used to test and to give feedback for students' learning</td></tr>
<tr><td>Summative assessment</td><td>Examination: 60%
One 2-hour paper at the end of the semester</td></tr>
<tr><td></td><td>Coursework: 40%
- 2 reports (20%)
- 1 class test (20%)</td></tr>
<tr><td colspan="3">Support and additional information</td></tr>
<tr><td>Learning Support (References):</td><td colspan="2">- Lecture notes (can be downloaded online from CANVAS)
- Benton, J.M., Harper, A.D. (2009): Introduction to Paleobiology and the Fossil record.
- Gradstein, F., Ogg, J., Schmitz, M. Ogg. G. (2012): The Geological Timescale
- Wicander, R, Monroe, S.J. (2010): Historical Geology</td></tr>
<tr><td>Breadth Options:</td><td colspan="2">This module is available as a breadth module</td></tr>
<tr><td>Notes:</td><td colspan="2">- https://engineering.purdue.edu/Stratigraphy/tscreator/index/index.php
- http://folk.uio.no/ohammer/past/</td></tr>
<tr><td>Attendance Policy/Requirement:</td><td colspan="2">Students are expected to attend all taught sessions throughout the module and participate in all assignments, class tests and laboratory practicals.</td></tr>
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