ACADEMIC COURSE DESCRIPTION – PALEONTOLOGY II

BACHELOR'S DEGREE
GEOLOGICAL ENGINEERING
2ND YEAR OF STUDY, 2ND SEMESTER

COURSE TITLE	PALEONTOLOGY II
COURSE CODE	31120120010SL1212229
COURSE TYPE	full attendance
COURSE LEVEL	1stcycle (bachelor's degree)
YEAR OF STUDY, SEMESTER	2nd year of study, 2nd semester
NUMBER OF ECTS CREDITS	4
NUMBER OF HOURS PER WEEK	4 (2 lecture hours + 2 seminar hours)
NAME OF LECTURE HOLDER	Assistant Professor Paul Țibuleac
NAME OF SEMINAR HOLDER	Assistant Professor Paul Țibuleac, Lecturer Bogdan Răţoi
PREREQUISITES	

A GENERAL AND COURSE-SPECIFIC COMPETENCES

General competences:

→ Effectively using additional sources and assisted learning resources in order to devise a research paper on a topic pertaining to the academic discipline

→ Improving teamwork abilities within a research team

Course-specific competences:

→ The analysis and solving of issues related to the field of Geological Engineering based on knowledge of the fossil assemblages in rocks and their biostratigraphic significance (relative dating)

→ The analysis and solving of issues related to the geological environment based on the paleontological, paleogeographic and paleoclimatic significances of fossil assemblages

→ The analysis and solving of issues related to the evaluation and extraction of geological resources through relative dating and biostratigraphic correlation methods

B LEARNING OUTCOMES

Upon completing the discipline, students become capable of:

- explaining the relative dating of rocks and the delineation of the main eras in the geological history of the Earth
- describing the main morphological characteristics of a fossil specimen belonging to major taxa
- using the biostratigraphic significance of fossil assemblages in the correlation of layers in outcrops and wells and the evaluation and study of mineral resources
- analyzing the significance of fossil assemblages in paleoenvironmental reconstructions
- estimating the influence of various paleoenvironmental factors (bathymetry, salinity, temperature, currents etc.) which have instilled specific characteristics into sedimentary rock layers
- processing paleontological samples in the laboratory

C LECTURE CONTENT

Week	Title of lecture	Teaching methods	Duration

1	Phylum *Mollusca.* Subphylum *Diasoma:* Classes *Rostroconchia* and *Scaphopoda*	Lecture	1 hour
2	*Bivalvia. Mollusca incertae-sedis:* Classes *Tentaculoidea* and *Hyolitha*	Lecture. Problematization.	3 hours
3	Phylum ***Arthropoda***: Subphylum *Trilobitomorpha* - Class *Trilobita*. Subphylum *Chelicerata:* Class *Merostomata.* Class *Arachnida*	Lecture	2 hours
4	Subphylum *Mandibulata*: Classes *Ostracoda, Cirripedia, Malacostraca.* Superclass *Myriapoda.* Superclass *Hexapoda*. Phylum ***Annelida***	Lecture	2 hours
5	Phylum ***Brachiopoda*** Phyum ***Bryozoa***	Lecture	2 hours
6	Phylum ***Echinodermata***: Subphylum *Asterozoa*. Subphylum *Homalozoa.* Subphylum *Blastozoa.* Subphylum *Crinozoa*	Lecture	1 hour
7	Subphylum *Echinozoa* Phylum ***Hemichordata***	Lecture	2 hours
8	Phlum ***Chordata***. Subphylum *Cephalochordata*. Subphylum *Urochordata*. Subphylum *Conodontochordata*	Lecture-debate. Problematization.	2 hours
9	Subphyum *Vertebrata* Infraphylum *Agnata* Infraphylum Gnathostomata Superclass Fish	Lecture	1 hour
10	Superclass *Tetrapoda*: Class *Amphibia*	Lecture. Demonstration.	2 hours
11	Superclass *Tetrapoda* Class *Reptilia*	Lecture	4 hours
12	Class *Aves*	Lecture	1 hour
13	Class *Mammalia*: Subclass *Prototheria (Monotremes).*	Lecture. Problematization.	3 hours

		Subclass *Eotheria.* Subclass *Allotheria*		
	14	Subclass *Theria*: Infraclass *Metatheria – Marsupialia* Infraclass *Eutheria.* Order *Primates*	Lecture-debate. Problematization.	2 hours

D RECOMMENDED READING FOR LECTURES

Hanganu Elisabeta, Şuraru N., Griogorescu D. (1986) - Paleontologie, *Editura Didactică şi Pedagogică* Bucureşti, 456 p.

Kardong, K. V., 1998. Vertebrates, comparative anatomy, function, evolution.*WCB MeGraw-Hill,* 747 p.

Leakey R. (1995) – Originea omului*. Ed. Humanitas,* 285 p.

E SEMINAR CONTENT

Week	Title of seminar	Teaching methods	Duration
1	Phylum Mollusca. Classes Rostroconchia, Scaphopoda and Bivalvia	Demonstration. Application.	3 hours
2	Phylum ***Arthropoda***: Subphylum *Trilobitomorpha* - Class*Trilobita*	Demonstration. Application.	2 hours
3	Phylum ***Brachiopoda***	Demonstration. Application.	2 hours
4	Phylum ***Bryozoa***	Demonstration. Case study.	1 hour
5	Phylum ***Echinodermata***: Subphylum *Asterozoa*. Subphylum *Blastozoa*. Subphylum *Crinozoa*	Demonstration. Application.	2 hours
6	Phyum ***Echinodermata*** Subphylum *Echinozoa* Phylum ***Hemichordata***	Demonstration. Application.	2 hours
7	Phylum ***Chordata***. *Subfilum Vertebrata. Elements of the skeleton*	Demonstration. Application. Problematization.	2 hours
8	Field application	Demonstration.	2 hours
9	Infraphylum Gnathostomata Superclass Pisces Superclass *Tetrapoda*: Class *Amphibia*	Demonstration. Application.	2 hours
10	Superclass *Tetrapoda*: Classes *Reptilia* and *Aves*	Demonstration. Application.	2 hours
11	Superclass *Tetrapoda*: Class Mammalia: dentition	Demonstration. Application.	2 hours
12	Superclass *Tetrapoda*: Class Mammalia: axial skeleton	Demonstration. Application.	2 hours

	13	Superclass *Tetrapoda*: Class Mammalia: appendicular skeleton	Demonstration. Application.	2 hours	
	14	Order Primates	Problematization	2 hours	

F	RECOMMENDED READING FOR SEMINARS
	Nistor-Hanganu Elisabeta, Manoliu Eugenia, Grigorescu D., Bragomir B., 1982 – Paleontologie. Lucrări practice. *Editura Universităţii Bucureşti,* 289 p. Turculeţ I., (1996) – Dicţionar de paleontologie. *Editura „Universităţii Al. I. Cuza"* Iaşi, 262 p., 26 pl., addenda.
G	EDUCATION STYLE

LEARNING AND TEACHING METHODS	Lecture-debate, demonstration, application, problematization, case study
ASSESSMENT METHODS	Ora assessment and research paper (lecture) – 70%, practical assessment and portfolio (seminar) – 30%
LANGUAGE OF INSTRUCTION	English