

BACHELOR'S DEGREE
GEOLOGICAL ENGINEERING
 2ND YEAR OF STUDY, 1ST SEMESTER

COURSE TITLE	PALEONTOLOGY I			
COURSE CODE	31120120010SL1212119			
COURSE TYPE	full attendance			
COURSE LEVEL	1 st cycle (bachelor's degree)			
YEAR OF STUDY, SEMESTER	2 nd year of study, 2 nd 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			
PREREQUISITES				
A	GENERAL AND COURSE-SPECIFIC COMPETENCES			
	<p>General competences:</p> <ul style="list-style-type: none"> → 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 <p>Course-specific competences:</p> <ul style="list-style-type: none"> → 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			
	<p>Upon completing the discipline, students become capable of:</p> <ul style="list-style-type: none"> ▪ 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	Introduction. Fossils and fossilization. The importance of fossils	Lecture-debate	2 hours
2	Landmarks in the history of Paleontology. Elements of taxonomy and nomenclature	Lecture. Problematization.	3 hours
3	Superkingdom Prokarya. Kingdom Bacteria	Lecture	2 hours
4	Superkingdom Eukarya. Kingdom Protista: phylum <i>Granuloreticulosa</i> : class <i>Foraminifera</i> .	Lecture	3 hours
5	Phylum <i>Sarcomastigopora</i> : class <i>Actinopoda</i> . <i>Protista incertae sedis</i> – <i>Calpionellidae</i>	Lecture	2 hours
6	Kingdoms Chromista and Fungi	Lecture	2 hours
7	Kingdom Animalia: phylum <i>Porifera</i> ; <i>Archaeocyatha</i>	Lecture	2 hours
8	Phylum <i>Cnidaria</i>	Lecture. Problematization.	2 hours
9	Phylum <i>Mollusca</i> : Introduction. Subphylum <i>Amphineura</i> Subphylum <i>Cyrtosoma</i> : Class <i>Gastropoda</i>	Lecture	2 hours
10	Class <i>Cephalopoda</i> : Subclasses <i>Endoceratoidea</i> , <i>Actinoceratoidea</i> , <i>Bactritoidea</i> . Subclass <i>Nautiloidea</i> . Subclass <i>Ammonoidea</i>	Lecture. Demonstration.	2 hours
11	Class <i>Cephalopoda</i> : Subclass <i>Ammonoidea</i> . <i>Aptichi</i>	Lecture	4 hours
12	Subclass <i>Coleoidea</i> (Orders <i>Aulacocerida</i> , <i>Belemnitida</i>)	Lecture	2 hours

D RECOMMENDED READING FOR LECTURES

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

Turculeţ I., (1996) – Dicţionar de paleontologie. *Editura Universităţii „Al. I. Cuza” Iaşi*, 262 p., 26 pl.,

	addenda.				
	Țibuleac P. (2006) – Paleontologie. Vol. I. <i>Ed. Tehnopress</i> , Iași, 366 p.				
E	SEMINAR CONTENT				
	Week	Title of seminar	Teaching methods	Duration	
	1	Fossils and fossilization	Demonstration. Application. Problematization.	2 hours	
	2	Phylum <i>Granuloreticulosa</i> : Class <i>Foraminifera</i>	Demonstration.	4 hours	
	3	Phylum <i>Sarcomastigopora</i> – Subclass <i>Radiolaria</i> . <i>Protista-incertae sedis</i> – <i>Calpionellidae</i>	Demonstration. Application.	2 hours	
	4	Phylum <i>Porifera</i>	Demonstration	1 hour	
	5	Field application	Demonstration.	2 hours	
	6	Phylum <i>Cnidaria</i>	Demonstration. Application.	3 hours	
	7	Phylum <i>Mollusca</i> Subphylum <i>Cyrtosoma</i> : Class <i>Gastropoda</i>	Demonstration. Application.	4 hours	
	8	Class <i>Cephalopoda</i> - Subclasses <i>Actinoceratoidea</i> , <i>Nautiloidea</i>	Demonstration. Application.	2 hours	
	9	Class <i>Cephalopoda</i> - Subclass <i>Ammonoidea</i>	Demonstration. Application. Problematization.	5 hours	
	10	Class <i>Cephalopoda</i> . Subclass <i>Ammonoidea</i> – Aptichi. Subclass <i>Coleoidea</i>	Demonstration. Application.	3 hours	
F	RECOMMENDED READING FOR SEMINARS				
	Nistor-Hanganu, Elisabeta, Manoliu, Eugenia, Grigorescu., D., Dragomir, B. 1982. Paleontologie. <i>Lucrări practice. Editura Universității București</i> , 289 p.				
	Turculeț, I. 1996. Dicționar de paleontologie. <i>Editura „Universității Al. I. Cuza” Iași</i> , 262 p., 26 pl., addenda.				
	Țibuleac, P.. 2004. Paleontologie. Sitematică-ghid practic. <i>Editura Tehnopress</i> , 238 p.				
G	EDUCATION STYLE				
	LEARNING AND TEACHING METHODS	Lecture-debate, demonstration, application, problematization			
	ASSESSMENT METHODS	Ora assessment and research paper (lecture) – 70%, practical assessment and portfolio (seminar) – 30%			
	LANGUAGE OF INSTRUCTION	English			