COURSE DESCRIPTION

Carbonate platforms: origin, classification and sedimentary evolution Academic year 2026-2027

1. Programme-related data

1.1. Higher Education Institution	Babeş-Bolyai University
1.2. Faculty	Faculty of Biology and Geology
1.3. Doctoral School	Theoretical and Applied Geology
1.4. Field of study	Geology
1.5. Level of study	Doctorate

2. Course-related data

2.1. Course title		**Carbonate platforms: origin, classification and sedimentary evolution**				Course code	**SDG01**
2.2. Course coordinator		Acad. Prof. Emerit Dr. Ioan Bucur					
2.3. Seminar coordinator		Acad. Prof. Emerit Dr. Ioan Bucur					
2.4. Year of study	1	2.5. Semester	2	2.6. Type of assessment		Exam	
2.7. Course status		Optional		2.8. Course type		Specialisation subject	

3. Total estimated time (hours per semester of teaching activities)

3.1. Number of hours per week	**4**	of which: 3.2. course	**2**	3.3. seminar/ laboratory/ project	**2**
3.4. Total of hours in the curriculum	48	of which: 3.5. course	24	3.6. seminar/ laboratory	**24**
Time allocation for individual study (IS) and self-taught activities (ST)					**hours**
Learning from textbooks, course materials, bibliography, and notes (IS)					60
Additional research in the library, on subject-specific electronic platforms, and on-site					70
Preparing seminars/ laboratories/ projects, assignments, reports, portfolios, and essays					46
Tutoring (professional guidance)					10
Examinations					4
Other activities: two-way communication with the course coordinator					12
3.7. Total hours of individual study (IS) and self-taught activities (ST)				202	
3.8. Total hours per semester				250	
3.9. Number of credits				10	

4. Prerequisites (where applicable)

4.1. curriculum-related	
4.2 skills-related	

5. Specific conditions (where applicable)

5.1. course-related	
5.2. seminar/laboratory-related	

6. Subject-specific learning outcomes

Knowledge
1. Know the concepts, theories and advanced models in the field.
2. Knows methods and techniques for identifying and formulating problems

3. Know the methods and techniques of advanced, theoretical and experimental research
4. Know academic terminology in international languages
Skills
1. Apply knowledge to the analysis of complex problems
2. Apply innovative methods to solve the identified problems
3. Uses data processing and interpretation techniques
4. Writes and presents international scientific papers.
Responsibility and autonomy
1. Works autonomously in investigating and expanding knowledge
2. Works autonomously in defining research directions
3. Assumes responsibility for the correctness of the procedures applied
4. Work autonomously in the use of languages for documentation and dissemination

7. Contents

7.1. Course	**Teaching and learning methods**	**Remarks**[1]
1. Carbonate systems: ways of producing carbonate sediments; food chain; carbonate factories	Presentation, discussions, case studies	
2. Major factors of carbonate sedimentation: organic productivity and sedimentation rates; carbonate facies	Presentation, discussions, case studies	
3.Carbonate platforms: Definition, types, genesis, evolution	Presentation, discussions, case studies	
4.Platform margins: reefs, bioclastic barriers, microbial barriers, mud-mounds	Presentation, discussions, case studies	
5. Sequence stratigraphy of carbonate shelf deposits: particularities; cycles in shallow water carbonate sediments	Presentation, discussions, case studies	
6. Modern carbonate environments; carbonate diagenesis – practical importance	Presentation, discussions, case studies	
7.Carbonate platforms in geologic history: Paleozoic, Mesozoic, Cenozoic.	Presentation, discussions, case studies	
7.2. Seminar/ laboratory	**Teaching and learning methods**	**Remarks**
Examples of Mesozoic carbonate platforms	Presentation, case studies, discussions, exercises	
Carbonate facies and depositional environments	Presentation, case studies, discussions, exercises	
The Getic Carbonate Platform	Presentation, case studies, discussions, exercises	
Application of sequence stratigraphy criteria to carbonate platform deposits: case studies	Presentation, case studies, discussions, exercises	

[1] For example, organisational aspects, recommendations for students, specific aspects relating to the course/seminar, such as inviting experts in the field, etc.

Diagenesis of shallow water carbonate rocks: case studies	Presentation, case studies, discussions, exercises	
Platform margins: examples of reef limestones from the Carpathian Realm	Presentation, case studies, discussions, exercises	
Hydrocarbon reservoirs in carbonate platforms: case studies	Presentation, case studies, discussions, exercises	

Bibliography
AHR M.W. (2008) – Geology of carbonate reservoirs: The identification, description and characterization of hydrocarbon reservoirs in carbonate rocks, 277 p., Willey & Sons, New Jersey
BATHURST, R.G.C. (1975) – Carbonate sediments and their diagenesis. Dev. Sedimentol., 12, 620 p., 359 figs., Elsevier, Amsterdam
FLÜGEL E. - Microfacies of carbonate rocks. 976 p.,151 pl., 326 fig., Springer, Berlin Heidelberg New York.
INSALACO, E., SKELTON, P.W., PALMER, T.J. (eds) (2000_ - Carbonate platform systems: components and interaction. Geological Society, Special Publication 178, London, 227 p.
SCHLAGER W. (2005) – Carbonate sedimentology and sequence stratigraphy, SEPM concepts in sedimentology and paleontology 8, 200 p., Boulder, Colorado.
SCHOLLE P.A., BEBOUT D.G. & MOORE C.H. (1998) – Carbonate depositional environments, AAPG Memoir 33, 708 p., Tulsa, Oklahoma.
TUCKER, M.E. AND WRIGHT, V.P. (1990) Carbonate sedimentology. Blackwell Science, Oxford, 482 p.
Articles from the journals: FACIES, CARBONATES ANS EVAPORATES, GEOARABIA AAPG BULLETIN, JOURNAL OF PETROLEUM GEOLOGY, SEDIMENTOLOGY, JOURNAL OF SEDIMENTARY RESEARCH, SEDIMENTARY GEOLOGY

8. Evaluation

Type of activity	8.1 Evaluation criteria[2]	8.2 Evaluation methods[3]	8.3 Percentage in the final grade
8.4. Course	Assessment of knowledge	exam	50
8.5. Seminar/ laboratory	Activity during seminars	Discussions	10
	Assessment of knowledge	Practical tests	40
8.6 Minimum standard for passing			
50% of the subjects required by the written exam 50% of the practical test			

9. SDG labels (Sustainable Development Goals)[4]

		Sustainable Development Generic Label

1 FĂRĂ SĂRĂCIE	2 FOAMETE „ZERO"	3 SĂNĂTATE ȘI BUNĂSTARE	4 EDUCAȚIE DE CALITATE	5 EGALITATE DE GEN	6 APĂ CURATĂ ȘI SANITAȚIE	7 ENERGIE CURATĂ ȘI LA PREȚURI ACCESIBILE	8 MUNCĂ DECENTĂ ȘI CREȘTERE ECONOMICĂ	9 INDUSTRIE, INOVAȚIE ȘI INFRASTRUCTURĂ

[2] The evaluation criteria must directly reflect the learning outcomes targeted at the level of the degree programme respectively at the level of the subject. More specifically, the learning outcomes set out in the expected learning outcomes are assessed.

[3] Both final evaluation methods and ongoing evaluation strategies should be established.

[4] Select a single label which, according to the *Implementation of SDG labels in the academic process*, best matches the subject. If the subject addresses sustainable development in a generic manner (i.e. by presenting/introducing the general framework of sustainable development, etc.), then the Sustainable Development generic label may be applied. If none of the labels describe the subject, select the last option: *"No label applies."*

10 INEGALITĂȚI REDUSE	11 ORAȘE ȘI COMUNITĂȚI DURABILE	12 CONSUM ȘI PRODUCȚIE RESPONSABILE	13 ACȚIUNE CLIMATICĂ	14 VIAȚA ACVATICĂ	15 VIAȚA TERESTRĂ	16 PACE, JUSTIȚIE ȘI INSTITUȚII EFICIENTE	17 PARTENERIATE PENTRU REALIZAREA OBIECTIVELOR	No label applies
○	○	○	○	○	○	○	○	○

Date of entry:
12.03.2026

Signature of course coordinator

....

Signature of seminar coordinator

....

Date of approval in the department:

Signature of the head of department

....