

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

<b>Predmet:</b>	Mikrofacies karbonatov in klastitov
<b>Course title:</b>	Microfacies of Carbonate and Clastic Sedimentary Rocks

<b>Študijski programi in stopnja</b>	<b>Študijska smer</b>	<b>Letnik</b>	<b>Semestri</b>
Geologija, prva stopnja, univerzitetni	Ni členitve (študijski program)	2. letnik	

Univerzitetna koda predmeta/University course code:

Predavanja	Seminar	Vaje	Klinične vaje	Druge oblike študija	Samostojno delo	ECTS
15	30	30	0	15	90	6

**Nosilec predmeta/Lecturer:**

**Vrsta predmeta/Course type:**

<b>Jeziki/Languages:</b>	Predavanja/Lectures:	Angleščina, Slovenščina
	Vaje/Tutorial:	Angleščina, Slovenščina

**Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:**

Pogoji za vključitev v delo je vpis v 2. ali 3. letnik študija geologije.  
Priporočljivo - opravljeni izpiti iz Mineralogije, Paleontologije in Sedimentne petrologije za pristop k izpitu.

**Prerequisites:**

Condition for inclusion in the work is inscription to the 2nd or 3rd academic year.  
Recommended - passed exams from Mineralogy, Paleontology and Sedimentary petrology to take an exam.

**Vsebina:**

Koncept mikrofacies  
Karbonatna sedimentacijska okolja  
Klastična sedimentacijska okolja  
Metode analize mikrofacies  
Podatki in analiza mikrofacies  
Diageneza in poroznost  
Klasifikacije  
Karbonatne kamnine v zbruskih  
Klastične kamnine v zbruskih  
Interpretacija mikrofacies  
Prepoznavanje paleookoljskih pogojev  
Prepoznavanje sedimentacijskih sistemov

**Content (Syllabus outline):**

The microfacies Concept  
Carbonate Depositional Environments  
Clastic depositional Environments  
Methods of Microfacies Analysis  
Microfacies Data and Analysis  
Diagenesis and Porosity  
Classifications  
Carbonate rocks in Thin Section  
Clastic Rocks in Thin Sections  
Microfacies Interpretation  
Recognizing Paleoenvironmental Conditions  
Recognizing Depositional Settings

**Temeljna literatura in viri/Readings:**

Učbeniki / Textbooks:

BOGGS, S. Jr., 2009: Petrology of Sedimentary Rocks. Cambridge Univ. Press, Cambridge, 600 p.

FLÜGEL, E. & MUNNECKE, 2010: Microfacies of carbonate rocks : analysis, interpretation and application, Springer, Berlin, 976 p.

NICHOLS, G., 1999: Sedimentology and Stratigraphy. Blackwell Science, Oxford, 355 p.

VERNON, R. H., 2004: A practical Guide to Rock Microstructure, Cambridge University Press, UK, 594 p.

ROŽIČ, B.: Gradiva za predmet Mikrofacies karbonatov in klastitov dostopna preko elektronskega sistema VIS. /

Materials for the subject Microfacies of Carbonate and Clastic Sedimentary Rocks are accessible via the VIS electronic

system.

Atlasi za mikroskopijo / Atlas for microscopy:

ADAMS, A.E., MACKENZIE, W.S. & GUILFORD, C., 1994: Atlas of sedimentary rocks under the microscope. John Wiley & Sons, New York, 104 p.

ADAMS, A.E. & MACKENZIE, W.S., 2001: A Colour Atlas of Carbonate Sediments and Rocks Under the Microscope. Manson Publishing, London, 180 p.

SCHOLLE, P.A., 1978: A Color Illustrated Guide To Carbonate Rock Constituents, Textures, Cements, and Porosities. The American Association of Petroleum Geologists, Memoir 27, U.S.A., 241 p.

SCHOLLE, P.A., 1979: A Color Illustrated Guide To Constituents, Textures, Cements, and Porosities of sandstones and Associated Rocks. The American Association of Petroleum Geologists, Memoir 28, U.S.A., 201 p.

**Cilji in kompetence:**

CILJI: Poglobljeno spoznavanje procesov nastanka, sestave, mikrostrukturnih in mikroteksturnih značilnosti klastičnih in karbonatnih sedimentnih kamnin. Interpretacija in analiza mikrofacielnih podatkov, paleookolja in sedimentacijskih sistemov. KOMPETENCE: Študent je usposobljen je za samostojno analizo mikrofacielnih značilnosti karbonatnih in klastičnih sedimentnih kamnin in njihovih tekstur ter interpretacijo sedimentacijskih, diagenetskih in paleookoljskih pogojev njihovega nastanka.

**Objectives and competences:**

OBJECTIVES: Advanced understanding of processes of formation, composition, microstructure and mikroteksture characteristics of clastic and carbonate sedimentary rocks. Interpretation and analysis of mikrofacies data, paleoenvironment and depositional systems. COMPETENCES: Students are qualified for independent analysis of mikrofacies characteristics of carbonate and clastic sedimentary rocks and their textures and interpretation of sedimentary, diagenetic and paleoenvironmental conditions of their formation.

**Predvideni študijski rezultati:**

Študent osvoji in razume napredno sedimentološko terminologijo in metode proučevanja karbonatnih in klastičnih sedimentov in sedimentnih kamnin. Prepozna vse mikrofaciелne značilnosti sedimentnih kamnin ter poglobi znanje makroskopske in mikroskopske analize za interpretacijo sedimentacijskih in postsedimentacijskih procesov.

**Intended learning outcomes:**

Students learn and understand advanced sedimentological terminology and methods for studying carbonate and clastic sediments and sedimentary rocks. Students are able to identify all mikrofacies characteristics of sedimentary rocks, and learn advanced macroscopic and microscopic analysis of sedimentary rocks necessary for the interpretation of sedimentary and postsedimentary processes.

**Metode poučevanja in učenja:**

Predavanja, projekt (sestavljeno iz terenskega, laboratorijskega in kabinetnega dela), vaje v mikroskopi in predavalnici.

**Learning and teaching methods:**

Lectures, project (composed of field, laboratory and cabinet work), practical work in the microscope laboratory and classroom.

**Načini ocenjevanja:**

	<b>Delež/Weight</b>	<b>Assessment:</b>
Pisni izpit in/ali ustno preverjanje	50,00 %	Written exam and/or oral exam
Projekt	50,00 %	Project

**Reference nosilca/Lecturer's references:**

VRABEC, Mirijam, PREISINGER, Davo. Kristali halita iz slovenskih solin in o evaporitih na splošno. V: JERŠEK, Miha (ur.). Mineralna bogastva Slovenije, (Scopolia, Suppl., 3). Ljubljana: Prirodoslovni muzej Slovenije: = Slovenian Museum of Natural History, 2006, str. 448-453.

JANAK, Marian, CORNELL, David, FROITZHEIM, Nikolaus, HOOG, J.C.M. De, BROSKA, Igor, VRABEC, Mirijam, HURAI, Vratislav. Eclogite-hosting metapelites from the Pohorje Mountains (Eastern Alps): P-T evolution, zircon geochronology and tectonic implications. European journal of mineralogy, 2009, vol. 21, no. 6, str. 1191-1212, doi: 10.1127/0935-1221/2009/0021-1966.

ČAR, Jože, DOBNIKAR, Meta, HERLEC, Uroš, JERŠEK, Miha, REŽUN, Bojan, SKOBE, Simona, VRABEC, Mirijam, ZUPAN HAJNA, Nadja, ZUPANČIČ, Nina. Selected ore deposits, igneous and metamorphic rocks from Eastern Alps, Slovenia : IMA2010 field trip guide SI1, (Acta Mineralogica-Petrographica, 26). Szeged: Depart. of Mineralogy, Geochemistry and Petrology, Univ. of Szeged, 2010. 24 str., ilustr. ISBN 978-963-306-058-2.

ZAVADLAV, Saša, ROŽIČ, Boštjan, DOLENEC, Matej, LOJEN, Sonja. Stable isotopic and elemental characteristics of recent tufa from a karstic Krka River (south-east Slovenia) : useful environmental proxies?. *Sedimentology*, ISSN 1365-3091, 2017, vol. 64, iss. 3, str. 808-831.

ŽVAB ROŽIČ, Petra, GALE, Luka, ROŽIČ, Boštjan. Analiza kamnin rimskih nagrobnih stel iz Podkrajja in z Iga = Rock analysis of Roman tombstones from Podkraj and Ig near Ljubljana. *Arheološki vestnik*, ISSN 0570-8966, 2016, 67, str. 359-369.

ROŽIČ, Boštjan. Perbla and Tolmin formations: revised Toarcian to Tithonian stratigraphy of the Tolmin Basin (NW Slovenia) and regional correlations = Les formations de Perbla et Tolmin: révisions stratigraphiques du Torcien au Tithonien dans le bassin de Tolmin (nord-ouest de la Slovénie) et corrélations régionales. *Bull. Soc. géol. Fr.*, 2009, tom. 180, n. 5, str. 411-430.