

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

<b>Predmet:</b>	Stratigrafska orodja
<b>Course title:</b>	Stratigraphic Tools

<b>Študijski programi in stopnja</b>	<b>Študijska smer</b>	<b>Letnik</b>	<b>Semestri</b>
Geologija, druga stopnja, magistrski	Regionalna geologija in paleontologija (modul)	1. letnik, 2. letnik	Zimski

**Univerzitetna koda predmeta/University course code:** 753

Predavanja	Seminar	Vaje	Klinične vaje	Druge oblike študija	Samostojno delo	ECTS
45	15	15	0	0	75	5

**Nosilec predmeta/Lecturer:** Boštjan Rožič

**Vrsta predmeta/Course type:** Izbirni / Elective

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

<b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b>	<b>Prerequisites:</b>
Zaključena dodiplomska (prva) stopnja.	Finished BSc study.

<b>Vsebina:</b> Sekvenčna stratigrafija: Koncepti in principi sekvenčne stratigrafije Orodja sekvenčne stratigrafije Sekvenčna stratigrafija sedimentacijskih sistemov Kemostratigrafija: Definicija, uporabnost, omejitve, Kemostratigrafski in sedimentološki indici globalnih okoljskih spremembe ter njihov geološki zapis, Anoksični oceani: vzroki in posledice, geološki zapis anoksičnih dogodkov, Kemostratigrafska orodja (kisikovi in ogljikovi izotopi, biomarkerji, stroncijevi izotopi, redoks-občutljivi elementi, kalcijevi izotopi), Kemostratigrafske korelacije in interpretacije.	<b>Content (Syllabus outline):</b> Sequence stratigraphy: Concepts and Principles of sequence stratigraphy Tools of sequence stratigraphy Sequence stratigraphy of sedimentary systems Chemostratigraphy: definition, usability, restrictions, Chemostratigraphic and sedimentological evidence of global environmental changes and their geological record, Anoxic oceans: the causes and consequences, the geological record of anoxic events Chemostratigraphic tools (oxygen and carbon isotopes, biomarkers, strontium isotopes, redox-sensitive elements, calcium isotopes) Chemostratigraphic correlation and interpretation.
---	--

<b>Temeljna literatura in viri/Readings:</b> Izbrana poglavja iz / Selected chapters from: CATUNEANU O. 2006: Principles of Sequence Stratigraphy. Elsevier, 374 pp. EMERY D. & MYERS K.: Sequence stratigraphy, Willey Blackwell, 304 pp. JENKYNS, H. 2008: Chemostratigraphy: applications, limitations and implications for environmental global change. Lecture-Exercises Book. OGG, J. G. OGG, G. & GRADSTEIN, F. M. 2008: The concise geologic time scale. Cambridge Uni. Press, 177 pp. WIGNALL, P. B. 1994: Black Shales. Clarendon Press, 127 pp. WEISSERT, H., JOACHIMSKI, M, SARNTHEIN M. 2008: Chemostratigraphy. Newsl. Stratigr., 42/3, 145-179.
---

Dodatna literatura je izbor relevantnih člankov iz znanstvene periodike, ki ga vzdržuje in dopolnjuje nosilec predmeta / Additional readings is the selection of relevant articles from the scientific journals, which is maintained and complemented by the lecturer

**Cilji in kompetence:**

CILJI: Poznavanje sodobnih stratigrafskih orodji med katerimi sta najpomembnejši sekvenčna stratigrafija in kemostratigrafija. Izbrani metodi predstavljata naj sodobnejši stratigrafski metodi, ki sta bili prvotno razviti za potrebe naftne geologije in se nato naglo razširili tudi na vse ostale smeri geologije.  
KOMPETENCE: Slušatelji bodo usposobljeni samostojnega strokovnega in raziskovalnega dela pri uporabi modernih stratigrafskih orodij za stratigrafske korelacije globalnih geoloških dogodkov in globalnih okoljskih sprememb v različnih obdobjih Zemljine zgodovine.

**Objectives and competences:**

OBJECTIVES: Knowledge of modern stratigraphic tools, among which the most important are sequence stratigraphy and chemostratigraphy. Selected methods represents the modern-most stratigraphic methods that were originally developed for the needs of the petroleum geology and then rapidly spread to all other branches of geology.  
COMPETENCES: Students will gain independent professional and research work in applying modern stratigraphic tools for stratigraphic correlations of global geological events and global environmental changes at different times in the Earth's history.

**Predvideni študijski rezultati:**

Študent obvlada in razume različne procese, ki privedejo do razlik, s katerimi se ukvarjata sekvenčna in kemostratigrafija. Prepozna različne sekvence in sekvenčne meje ter zna izdelati sekvenčni model. Prepozna markeje v sedimentnih zapisih, ki so značilni za globalne okoljske spremembe in jih zna ustrezno interpretirati.

**Intended learning outcomes:**

The student will learn and understand the diverse processes that lead to differences, with which sequence stratigraphy and chemostratigraphy deal. He/she recognizes different sequences and sequence boundaries and knows how to create a sequence model, and identifies markeje in sedimentary records that are characteristic of global environmental changes and knows how to properly interpret them.

**Metode poučevanja in učenja:**

Predavanja, seminarsko delo v obliki branja in skupne diskusije člankov iz znanstvene periodike.

**Learning and teaching methods:**

Lectures, seminar work in the form of reading and joint discussion of articles from scientific journals.

**Načini ocenjevanja:**

**Delež/Weight**

**Assessment:**

Pisni izpit	75,00 %	Written exam
Seminar	25,00 %	Seminar work
Ocenjevalna lestvica: (6-10) pozitivno, ob upoštevanju Statuta UL in fakultetnih pravil.		Grades: (6-10) positive assessment, according to University Statute and Faculty Acts.

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

ROŽIČ, Boštjan, GORIČAN, Špela, ŠVARA, Astrid, ŠMUC, Andrej. The Middle Jurassic to Lower Cretaceous succession of the Ponikve klippe: the Southernmost outcrops of the Slovenian Basin in Western Slovenia. *Rivista italiana di paleontologia e stratigrafia*, ISSN 0035-6883, 2014, vol. 120, no. 1, str. 83-102.  
GALE, Luka, ROŽIČ, Boštjan, MENCIN GALE, Eva, KOLAR-JURKOVŠEK, Tea. First evidence for late Norian progradation of Julian Platform towards Slovenian Basin, eastern Southern Alps. *Rivista italiana di paleontologia e stratigrafia*, ISSN 0035-6883, July 2014, vol. 120, no. 2, str. 191-214.  
ROŽIČ, Boštjan, ŠMUC, Andrej. Gravity-flow deposits in the Toarcian Perbla formation (Slovenian basin, NW Slovenia). *Rivista italiana di paleontologia e stratigrafia*, ISSN 0035-6883, 2011, vol. 117, no. 2, str. 283-294.