UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet:	Dinamika Alpskega orogenskega sistema
Course title:	Dynamics of the Alpine Orogenic System

Študijski programi in stopnja	**Študijska smer**	**Letnik**	**Semestri**
Geologija, druga stopnja, magistrski	Regionalna geologija in paleontologija (modul)	2. letnik	Zimski

Univerzitetna koda predmeta/University course code: 851

Predavanja	**Seminar**	**Vaje**	**Klinične vaje**	**Druge oblike študija**	**Samostojno delo**	**ECTS**
30	0	0	0	45	75	5

Nosilec predmeta/Lecturer: Marko Vrabec

Vrsta predmeta/Course type: Obvezni / Compulsory

Jeziki/Languages:		
	Predavanja/Lectures:	Angleščina, Slovenščina
	Vaje/Tutorial:	Angleščina, Slovenščina

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisites:**
Opravljene obveznosti pri predmetu »Razvoj Alpskega orogenskega sistema«.	Completion of the course »Evolution of the Alpine orogenic system«.

Vsebina:	**Content (Syllabus outline):**
Predkolizijska paleogeografija in glavne regionalne enote. Mezozojska sedimentacijska okolja in geodinamika. Subdukcija in kolizija v alpskem prostoru. Metamorfizem in njegova geodinamska interpretacija. Sinorogeni in postorogeni magmatizem in njegovi produkti. Narivna tektonika. Ekshumacija, dviganje in erozija orogena. Orogenski kolaps in ekstruzija. Sinorogena in postorogena ekstenzija. Stratigrafski razvoj in dinamika pred- in postkolizijskih bazenov. Aktivni geološki procesi v Alpskem orogenu.	Pre-collisional paleogeography and major regional units. Mesozoic sedimentary environments and geodynamics. Subduction and collision in the Alpine domain. Metamorphism and its geodynamic interpretation. Syn- and post-orogenic magmatism and its products. Thrust tectonics. Exhumation, uplift and erosion of the orogen. Orogenic collapse and extrusion. Syn- and post-orogenic extension. Stratigraphic evolution and dynamics of pre- and post-collisional basins. Active tectonic processes in the Alpine orogen.

Temeljna literatura in viri/Readings:

PFIFFNER, O.A.: Geology of the Alps. 2014, John Wiley & Sons, Ltd, 389 p.
Izbor relevantnih člankov iz znanstvene periodike, ki ga vzdržuje in dopolnuje nosilec predmeta.
[A selection of relevant scientific papers which is maintained by the Lecturer.]

Cilji in kompetence:	**Objectives and competences:**
CILJI: Evropske Alpe so najbolje preučen orogenski sistem na svetu. Dobra razgaljenost terena omogoča izjemen vpogled v terenske dokaze za moderne teorije o kontinentalni koliziji, nastanku in razvoju orogenov, ter o	OBJECTIVES: European Alps are the best studied orogenic system in the World. Good terrain exposure facilitates excellent insight into field evidence for modern theories of continental collision, of orogen origin and evolution,

spremljajočih tektonskih, magmatskih, metamorfnih in sedimentarnih procesih. Predmet je organiziran v obliki terenske ekskurzije preko klasičnih lokacij alpske geologije. Študenti se s študijem terenskih primerov na izdankih in v regionalnih prerezih seznanijo z geodinamskim razvojem orogena, interakcijo med tektonskimi, metamorfnimi, magmatskimi in sedimentnimi procesi, ter s pred-, sin- in postkolizijsko dinamiko celotnega orogenskega sistema. KOMPETENCE: Študenti so sposobni razumeti tektonsko zgradbo in nastanek Alpskega orogenskega sistema. Razlikovati morejo sestavne enote in cone orogena in jih interpretirati v kontekstu tektonike plošč.	and of accompanying tectonic, magmatic,metamorphic and sedimentary processes. Course is organized in the form of a field excursion visiting the classical localities of Alpine geology. By examining field examples in outcrops and regional transects, the students get familiar with the geodynamical evolution of the orogen, interaction between tectonic, magmatic, metamorphic and sedimentary processes, and with pre-, syn- and post-collisional dynamics of the entire orogenic system. COMPETENCES: Students are able to understand the construction and formaton of the Alpine orogenic system. They are able to distinguish the individual units and components of the orogen and interpret them in the plate tectonic framework.

Predvideni študijski rezultati:	**Intended learning outcomes:**
- Študenti poznajo glavne geološke in strukturne enote Alpskega orogena. - Razumejo kompleksen geološki razvoj orogenskih sistemov. - Znajo interpretirati strukturne in stratigrafske enote v kontekstu časovnega in geodinamskega razvoja orogena.	- Students are familiar with the major geological and structural units of the Alpine orogen. - They understand the complex geological evolution of orogenic systems. - They can interpret structural and stratigraphic units in the context of temporal and geodynamical evolution of the orogen.

Metode poučevanja in učenja:	**Learning and teaching methods:**
Predavanja. Terenske vaje obsegajo 5 dni dela na terenu.	Lectures. Course includes a 5-day field trip.

Načini ocenjevanja:	**Delež/Weight**	**Assessment:**
Pisni izpit	100,00 %	Written examination
Za pozitivno oceno mora biti pravilnih vsaj 50% odgovorov. Ocenjevalna lestvica: 51-60% (6); 61-70% (7); 71-80% (8); 81-90% (9); 91-100% (10) ob upoštevanju Statuta UL in fakultetnih pravil.		A score of at least 50% is required to pass the exam. Grading: 51-60% (6); 61-70% (7); 71-80% (8); 81-90% (9); 91-100% (10) according to University Statute and Faculty Acts.

Reference nosilca/Lecturer's references:

VRABEC, Marko, FODOR, László. Late Cenozoic tectonics of Slovenia: structural styles at the Northeastern corner of the Adriatic microplate. V: PINTER, Nicholas, GRENERCZY, Gyula, WEBER, John, STEIN, Seth, MEDAK, Damir. The Adria microplate: GPS geodesy, tectonics and hazards, (NATO Science Series, IV, Earth and Environmental Sciences, vol. 61). Dordrecht: Springer, 2006, str. 151-168.

FODOR, László, GERDES, Axel, DUNKL, István, KOROKNAI, Balázs, PÉCSKAY, Zoltan, TRAJANOVA, Mirka, HORVÁTH, Peter, VRABEC, Marko, JELEN, Bogomir, BALOGH, Kadosa, FRISCH, Wolfgang. Miocene emplacement and rapid cooling of the Pohorje pluton at the Alpine-Pannonian-Dinaridic junction, Slovenia. Swiss Journal of Geosciences, 2008, suppl.1, vol. 101, str. S255-S271.

KASTELIC, Vanja, VRABEC, Marko, CUNNINGHAM, Dickson, GOSAR, Andrej. Neo - Alpine structural evolution and present day tectonic activity of the eastern Southern Alps: the case of the Ravne Fault, NW Slovenia. J. Struct. Geol., 2008, vol. 30, str. 963-975.