Univerza v Mariboru
University of Maribor

Fakulteta za naravoslovje in matematiko
Faculty of Natural Sciences and Mathematics

UČNI NAČRT PREDMETA / SUBJECT SPECIFICATION	
Predmet:	**Urejanje in raba kmetijskega prostora**
Subject Title:	**Agricultural Use and Land Planning**

Študijski program **Study programme**	**Študijska smer** **Study field**	**Letnik** **Year**	**Semester** **Semester**
Ekologija z naravovarstvom /Ecology with Nature Conservation	Ekologija z naravovarstvom /Ecology with Nature Conservation	2	

Univerzitetna koda predmeta / University subject code:	

Predavanja **Lectures**	**Seminar** **Seminar**	**Sem. vaje** **Tutorial**	**Lab. vaje** **Labor work**	**Teren. vaje** **Field work**	**Samost. delo** **Individ. work**	**ECTS**
30				15	135	**6**

Nosilec predmeta / Lecturer:	Andreja BOREC

Jeziki / Languages:	**Predavanja / Lecture:**	slovenski/Slovenian
	Vaje / Tutorial:	slovenski/Slovenian

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Jih ni.	No.

Vsebina:	**Content (Syllabus outline):**
Spoznavanje povezanosti naravnih procesov, zlasti tistih, ki povezujejo geologijo in pedologijo, rabo tal in varstvo okolja. - Ponovitev najpomembnejših talnih lastnosti (fizikalne lastnosti, zrak v tleh, voda v tleh, kemijske lastnosti tal, organski del tal) - Odnos rastlina – tla (kroženje hranil) - Rodovitnost in vrednotenje tal (vrste	To get aware of natural processes, especially between geology, pedology, land use and environmental protection. - The main characteristics of soils (physical and chemical properties, air and water in the soil, soil organic matter) - Relations between soils and plants (nutrient cycle) - Soil fertility and evaluation of soils (types of pedological research, sampling, soil

pedoloških raziskav, vzorčenje, talne analize in interpretiranje rezultatov analiz, kartiranje) - Obdelava tal (izbira primernih tehnik lgede na učinke) - Erozija tal (problematika, vrste, učinki, kontrola, ukrepi in tehnike preprečevanja) - Hidromelioracijski ukrepi (talna vlaga, merjenje vlage, načini in oblike dreniranja, izbira drenažnega sistema, viri namakanja, kvaliteta vode, načini namakanja, metoda uporabe, časovna in količinska uporaba) - Komasacije (definicija, namen, zakonitost postopka, osebe v postopku, izpeljava komasacije) - Onesnaževanje tal (viri in vrste onesnaževanja, organska in anorganska onesnažila, ukrepi za preprečevanje ter tehnike sanacij onesnaženih tal) - Človekov vpliv na kakovost in zdravje tal (vrste kmetovanja in njihov vpliv) - Vrednotenje in raba tal (kategorizacija, pedosekvence, talni informacijski sistem) - Tehnike in načini trajnostnega urejanja kmetijskega prostora	analysis, results interpretation, mapping) - Land cultivation (cultivation techniques in use) - Soil erosion (sources, problems, control, prevention techniques and measures) - Drainage systems and irrigation of soils (soil moisture, moisture measuring, variables in drainage design, forms of drainage systems, choice of drainage system, irrigation water sources, water quality, principles of irrigation, the method of application, timing and rates of application) - Land consolidation (definition, goals, purposes legislation, subjects involved, implementation phases) - Soil pollution (pollution sources - organic and anorganic, prevention measures, improvement techniques) - Human impact on soil quality and soil health (agricultural techniques) - Evaluation and land use (categories, soil informatics system) - Sustainable agricultural land planning

Temeljni literatura in viri / Textbooks:

- Bernhardsen, T.: 1999: Geographic Information Systems. An Introduction. John Wiley & Sons Inc., New York.
- Brady, N. C., R. R. Weil, 2002: The nature and properties of soils. 13th ed. Prentice Hall, USA.
- Briggs, D., P. Smithson, K. Addison, K. Atkinson, 1998. Fundamentals of the Physical Environment. Routledge, New York.
- Coleman, D. C., D.A. Crossley Jr., 1996: Fundamentals of soil ecology. Academic press, USA.
- Foth, H. F., 1990: Fundamentals of soil science. 8th ed. John Wiley & Sons, USA.
- Miller, R. W., D. T. Gardiner, 2001: Soils in our Environment. 9th ed. Prentice Hall, USA.
- Moser, E., 1984: Verfahrenstechnik Intensivkulturen. Paul Parey, Berlin, Hamburg.
- Rieul, L., P. Ruelle, 2003: Irrigation. Guide pratique. Cemagref Editions.
- Stritar, A., 1991: Landscapes, landscape types; Soil use and conservation in Slovenia. Stritar, I., F. Oset (Eds.), Ljubljana.
- Tiercelin, J. R., 1997: Traite d'irrigation. Londeres. Paris, New York.
- Zakonski dokumenti/ Legislation documentes

Cilji:	**Objectives:**
• Zaradi vse večjega onesnaževanja iz različnih virov študenti pridobijo znanja in izkušnje identificirati območja in zemljišča, primerna za določeno rabo, na zaraščenih in degradiranih območjih pa alternativne rešitve za nadaljnjo rabo • Pridobijo znanje o najpomembnejših ukrepih urejanja kmetijskega prostora • Usposobijo se izbirati najustreznejše ukrepe in metode za naustreznejšo rabo predela ali tal	• Starting on intensifying soils pollution from different sources, students gain knowledge how to recognize soils and areas for selected land use and to find alternatives for overgrowed and degraded land. • Students acquire the most important knowledge about agricultural land planning. • They get the knowledge of measures and methods selection to provide the most suitable land use in specific area or soil.
Predvideni študijski rezultati:	**Intended learning outcomes:**
• Študent bo sposoben spoznati različne vrste tal, njihove fizikalne, kemijske in biotske lastnosti ter proizvodno sposobnost • Poznal bo vpliv različnih rab na tla in posledice možnih neustreznih rab tal (biotska, kemijska in fizikalna degradacija) • Usposobil se bo za bo različne ukrepe varovanja tal in za izbiro metod in ukrepov pri urejanju kmetijskega prostora	• Students will be qualified to recognize different soils, soil properties (physical, chemical, biotic) and its production capacity. • Students will be qualified to use different soil protection measures and to select the adequate methods and measures for agricultural land planning. • Student will get qualified for providing selected measures and methods of soil protection in agricultural land planning.
Prenesljive/ključne spretnosti in drugi atributi:	**Transferable/Key Skills and other attributes:**
• Uporaba GIS-a, Avto-Cad-a in drugih programskih orodij • Uporaba kartografskega materiala • Sposobnost kritičnega razmišljanja • Spretnost komuniciranja	• Use of GIS, Avto-Cad, and other programme tools • Use and deal with Cartographic material • Critical thinking • Demonstrate skills in communications
Metode poučevanja in učenja:	**Learning and teaching methods:**
• Predavanja • Seminarske vaje • Terenski ogledi	• Lectures • Tutorial • Field trips

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
• Izdelava projekta - pisno	40	• Project work - written

Materialni pogoji za izvedbo predmeta :	***Material conditions for subject realization***
• *Multimedijska predavalnica in računalniki z ustreznimi programi*	• *Lecture hall for multimedia presentations, and PCs with required programs*

Obveznosti študentov:	***Student's commitments:***
(pisni, ustni izpit, naloge, projekti)	*(written, oral examination, coursework, projects):*
• Izdelava projekta - pisno • Pisni izpit	• Project work - written • Written exam