

## UČNI NAČRT PREDMETA / COURSE SYLLABUS

**Predmet:** KMETIJSTVO IN OKOLJE  
**Course title:** AGRICULTURE AND THE ENVIRONMENT

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Varstvo okolja in ekotehnologije, 2. stopnja	/	2.	/
Environmental Protection and Eco-technologies, 2 <sup>nd</sup> level	/	2 <sup>nd</sup>	/

**Vrsta predmeta / Course type** Izbirni predmet / Optional course

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

Predavanja Lectures	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
20	20	/	/	80	4

**Nosilec predmeta / Lecturer:** prof. dr. Andrej Simončič

**Jeziki / Languages:** **Predavanja / Lectures:** Slovenščina / Slovenian  
**Vaje / Tutorial:** Slovenščina / Slovenian

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

Pogojev ni.

**Prerequisites:**

No formal prerequisites.

**Vsebina:**

**Kmetijstvo in okolje**

- Izhodišče in splošni del;
- Glavni dejavniki obremenjevanja okolja v kmetijstvu;

**Poglavitne teme:**

- Kmetijstvo in tla
- Kmetijstvo in voda
- Kmetijstvo in zrak
- Kmetijska biotska raznovrstnost
- Kmetijstvo in biotska raznovrstnost habitatov
- Kmetijstvo in podnebne spremembe
- Kmetijstvo in krožno gospodarstvo
- Vrste kmetijske pridelave glede na možen vpliv na okolje: Konvencionalna pridelava; Integrirana pridelava; Ekološka pridelava;

**Content (Syllabus outline):**

**Agriculture and the environment**

- Background and general part;
- Main factors of environmental pressure in agriculture;

***Main topics:***

- Agriculture and soil
- Agriculture and water
- Agriculture and air
- Agricultural biodiversity
- Agriculture and habitat biodiversity
- Agriculture and climate change
- Agriculture and circular economy
- Types of agricultural production according to their potential impact on the environment: Conventional production; Integrated production; Organic production;

## Temeljna literatura in viri / Textbooks:

### Obvezna / Required:

1. Blažič, M. in sod. 2022. Temeljna načela dobre kmetijske prakse varstva rastlin in varne rabe fitofarmaceutskih sredstev; ur. Žigon, P.; MKGP, Uprava za varno hrano, veterinarstvo in varstvo rastlin in Kmetijski inštitut Slovenije, Ljubljana, maj 2022, 252 s.
2. Voss, G. and Ramos, G. 2003. Chemistry of Crop Protection; Progress and Prospects in Science and Regulation. Wiley-VCH, 395 s.
3. Ullman's Agrochemicals; Vol 2 Plant and Crop Protection. 2007; Wiley-VCH, s 517-912.
4. Merrington, G., et al. 2002. Agricultural pollution. Environmental Problems and Practical Solutions; Spon Press. London and New York, 243 s.
5. Šarić, T., Gadžo, D. 1998. Uticaj poljoprivrednih hemikalija na okolinu; IGP Garmond i Ekobih, Sarajevo, 130 s.
6. Zakonski in podzakonski akti s področja kmetijstva ter varstva okolja v EU in Sloveniji./ Legislation in the field of agriculture and environmental protection in EU and Slovenia.

### Priporočena / Recommended:

1. Zapiski iz predavanj/Lecture notes
2. Gradivo pri predavanjih/Lecture material

## Cilji in kompetence:

### Predmetno specifični cilji in kompetence:

- sposobnost poiskati ustrezne podatke o kmetijskih vplivih na okolje, jih preveriti, oceniti in kritično uporabljati;
- obvladati osnove okoljskih dejavnikov v kmetijstvu s sposobnostjo povezovanja znanja z drugimi področji (ekologija, biologija, biodiverziteteta, prostorsko planiranje, ...);
- razvijati veščine za interdisciplinarno razmišljanje o kmetijskih vplivih v prostoru in njegovi rabi za namene kmetijstva;
- razvijati sposobnost sodelovanja v diskusijah o vplivih kmetijstva v okolju;
- sposobnost razumeti ter reševati konflikte s področja kmetijstva v širšem slovenskem prostoru;
- poznati načela okoljskih presoj vplivov in osnove spremljanja stanja okolja;
- usposobljenost uporabljati informacijsko-komunikacijske tehnologije in informacijske sisteme za spremljanje stanja okolja;
- sposobnost posredovati znanje in informacije o okoljskih vsebinah širši javnosti v ustni in pisni obliki.

## Objectives and competences:

### Specific competences:

- to be able to find relevant information on agricultural impacts on the environment, check, evaluate and critically use them;
- to master the basics of environmental factors in agriculture with the ability to integrate knowledge with other fields (ecology, biology, biodiversity, spatial planning, ...);
- to develop skills for interdisciplinary thinking about agricultural impacts in the environment and its use for agricultural purposes;
- to develop ability to participate in discussions on the impacts of agriculture in the environment;
- to be able to understand and resolve conflicts in the field of agriculture in the wider Slovene area;
- acquainting with the principles of environmental impact assessments and the basics of different environmental monitorings;
- to get competences for the use of information and communication technology and information systems for monitoring the state of the environment;

- to be able to communicate knowledge and information of environmental content to the general public in oral and written form.

**Predvideni študijski rezultati:**

**Znanje in razumevanje:**

Študent bo ob zaključku predmeta sposoben:

- znanje in razumevanje vloge kmetijstva v prostoru;
- znanje in razumevanje okoljskih dejavnikov na področju kmetijske pridelave;
- obvladanje načel varstva okolja, zakonodaje, teoretičnih osnov in praktičnih rešitev v okviru kmetijske pridelave;
- sposobnost samostojnih manj zahtevnih strokovnih analiz pri iskanju rešitev za ohranitev okolja; oziroma izboljšanje stanja okolja in izdelave ocen tveganj za posamezne kmetijske ukrepe v prostoru;
- sposobnost komuniciranja z drugimi interesnimi skupinami na področju varovanja okolja.

**Intended learning outcomes:**

**Knowledge and understanding:**

At the end of the subject, student will be able:

- knowledge and understanding of the role of agriculture in the environment;
- knowledge and understanding of environmental factors in the field of agricultural production;
- mastering the principles of environmental protection, legislation, theoretical bases and practical solutions in the context of agricultural production;
- the ability of independent, less demanding expert analyzes in finding solutions for preserving the environment; or improving the state of the environment and making risk assessments for individual agricultural measures in the environment;
- ability to communicate with other stakeholders in the field of environmental protection.

**Metode poučevanja in učenja:**

**Oblike dela:**

- predavanja
- samostojno delo študentov/tk

**Metode dela:**

- razlaga
- dialog, diskusija
- preučevanje praktičnih primerov
- aktivno skupinsko delo
- vključevanje strokovnjakov za posamezna področja
- priprava, predstavitev in zagovor seminarske naloge

**Learning and teaching methods:**

**Forms of teaching:**

- In-class lectures
- Individual work of students

**Teaching methods:**

- Explanation
- Discussion, debate
- Practical demonstration
- Teamwork
- Involvement of experts in the specific fields
- preparation, presentation of a seminar paper

**Načini ocenjevanja:**

Delež (v %) /

Weight (in %) **Assessment:**

<p>Pogoj za pristop k izpitu je seminarska naloga, ki jo mora kandidat tudi predstaviti pred sošolci</p> <p>Končna ocena pri predmetu je sestavljena iz:</p> <ul style="list-style-type: none"> <li>• pisni izpit</li> <li>• priprava, predstavitev in zagovor seminarske naloge</li> </ul> <p>Ocenjevalna lestvica:</p> <ul style="list-style-type: none"> <li>▪ zadostno 6: 60–67 %</li> <li>▪ dobro 7: 68–75 %</li> <li>▪ prav dobro 8: 76–83 %</li> <li>▪ prav dobro 9: 84–90 %</li> <li>▪ odlično 10: 91–100 %</li> </ul>		<p>A prerequisite for access to the exam is Seminar paper which must be presented to fellow students.</p> <p>The final grade for the course consists of:</p> <ul style="list-style-type: none"> <li>• written exam</li> <li>• preparation, presentation and defense of a seminar paper</li> </ul> <p>Grading scale:</p> <ul style="list-style-type: none"> <li>▪ Sufficient D (6): 60–67%</li> <li>▪ Good C (7): 68–75%</li> <li>▪ Very good B (8): 76–83%</li> <li>▪ Very good B+ (9): 84–90%</li> <li>▪ Excellent A (10): 91–100%</li> </ul>
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**Materialni pogoji za izvedbo predmeta :**

- Računalniško opremljena predavalnica z internetnim dostopom in elektronska prosojnica.

**Material conditions for subject realization:**

- computer equipped classroom with the multimedia equipment and internet.

**Obveznosti študentov:**

Pisni izpit in seminarska naloga.

**Student's commitments:**

Written examination and Seminar paper.

**Reference nosilca predmeta:**

**Pedagoško delo:**

- Izkušnje na področju dodiplomskega, podiplomskega in podoktorskega študija in raziskovanja od leta 2004 dalje (FKBV UM, VŠVO Velenje, BF UL, FAMNIT UP);
- Od 1999 dalje vabljeni predavatelj za herbologijo: BF – Agronomija, UL;
- Od 2021 dalje redni prof. – področje FFS, Ekologija FFS, FKBV, UM;
- Od 2020 dalje redni prof. – področje kmetijstvo in okolje, FVO Velenje;
- Vabljeni predavatelj za varstvo rastlin in ekologijo FFS, BF UL, FVO, FKBV UM;

**Znanstveno-raziskovalno in strokovno delo:**

- Ko-ordinator več kot 15 nacionalnih in mednarodnih projektov na področju kmetijstva in okolja;
- 25 letne izkušnje na področju svetovanja z več kot 600 predavanji za različne ciljne skupine (kmetijski pridelovalci, kmetijski svetovalci,

**Lecturer's references:**

**Pedagogic activities:**

- Experience in undergraduate, graduate and postdoctoral studies and research since 2004 (FKBV UM, VŠVO Velenje, BF UL, FAMNIT UP);
- Since 1999, invited lecturer in herbology: BF – Agronomy, UL;
- Since 2021, full professor – field of FFS, Ecology FFS, FKBV, UM;
- Since 2020, full professor – field of agriculture and environment, FVO Velenje;
- Invited lecturer in plant protection and ecology FFS, BF UL, FVO, FKBV UM;

**Scientific, research Professional work:**

- Co-ordinator of more than 15 national and international projects in the field of agriculture and ecology;
- 25 years of experiences in Advisory Service with over 600 lectures for different target groups (farmers, advisory officers, students, pupils, allotment holders, pesticide merchants and dealers), over 150 professional articles; All

<p>študenti, dijaki, vrtničarji, prodajalci in trgovci s FFS),</p> <ul style="list-style-type: none"> <li>• Več kot 150 znanstvenih in strokovnih člankov s področja kmetijstva, varstva rastlin in varstva okolja;</li> <li>• Udeležba na dveh enotedenskih izobraževanjih na BBA, Braunschweig, Nemčija, EU Registration</li> <li>• Directive 91/414 – A training seminar (1997, 1999);</li> <li>• Udeležba na konferenci Contaminated Land Management Conference (London, 1999);</li> <li>• Udeležba na konferenci Human Health Risk Assessments for Agrochemicals (London, 2000);</li> <li>• ECCO Overview Meeting, Round 10, Braunschweig, Nemčija, Sep. 2001;</li> <li>• Udeležba na konferenci An Introduction to Groundwater Pollution, Prevention and Remediation, (London, januar 2002);</li> <li>• TAIEX Study visit of PSD (Efficacy, Ecology and Pesticide registration procedures) (York, VB, feb. 2002);</li> <li>• ECCO Per Review Meeting York – Fate nad behavior of pesticides (april 2002),</li> <li>• Dvotedenski obisk PSD (Pesticide Safety Directorate), Fate and behaviour of Pesticides in the soil, A Phare training seminar (junij 2003);</li> <li>• Študijski obisk Haskell Agricultural Laboratory, Department of Agronomy and Horticulture, University of Nebraska, USA – GMO technology and research in weed control (Junij 2008);</li> </ul>	<p>activities are related to agriculture, plant protection and ecology;</p> <ul style="list-style-type: none"> <li>• Two one week visits of BBA, EU Registration Directive 91/414 – A training seminar (1997 and 1999);</li> <li>• Contaminated Land Management Conference in London (1999);</li> <li>• Human Health Risk Assessments for Agrochemicals Conference in London (2000);</li> <li>• ECCO Overview Meeting, Round 10, Braunschweig, Germany, Sep. 2001;</li> <li>• An Introduction to Groundwater Pollution, Prevention and Remediation, London, Jan. 2002;</li> <li>• TAIEX Study visit of PSD (Efficacy, Ecology and Pesticide registration procedures) in York, Feb. 2002;</li> <li>• ECCO Per Review Meeting in York – Fate nad behaviour, apr. 2002),</li> <li>• Two weeks visit of PSD (Pesticide Safety Directorate), Fate and behaviour of Pesticides in the soil – A Phare training seminar (June 2003);</li> <li>• Study visit of Haskell Agricultural Laboratory, Department of Agronomy and Horticulture, University of Nebraska, USA – GMO technology and research in weed control (June 2008);</li> </ul>
<p><b>Izbrani znanstveni članki / Selected scientific papers:</b></p>	