

21. 01. 2025

UČNI NAČRT UČNE ENOTE / COURSE SYLLABUS

Učna enota:	VINOGRADNIŠTVO, VINARSTVO IN SADJARSTVO
Course title:	VITICULTURE, WINEMAKING AND FRUIT-GROWING

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Upravljanje podeželja, 1. stopnja		2.	4.
Landscape management, 1 st level		2.	4.

Vrsta učne enote / Course type

Univerzitetna koda učne enote / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
30	-	30		-	90	5

Nosilec učne enote / Lecturer:

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

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

Vsebina:	Content (Syllabus outline):
<p>Rajonizacija vinogradništva, trsničarstvo ter sorte in podlage vinske trte. Življenjski procesi in gnojenje vinske trte. Gojitvene oblike vinske trte in vpliv agrotehničnih ter ampelotehničnih del na kakovost grozdja, tudi z uvajanjem robotizacije. Sistemi gospodarjenja v vinogradništvu (konvencionalno, integrirano, ekološko, trajnostno, krožno) ter zaščita pred boleznimi in škodljivci. Dolgoročno prilagajanje vinogradništva trajnostnim smernicam ter globalnim podnebnim spremembam. Načrtna trgategv grozdja kot ključen dejavnik kakovosti vin. Vinogradniška zakonodaja in kmetijska politika. Grozdje, struktura in kemična sestava grozdja, mošta in vina. Mikroflora grozdja, mošta in vina. Alkoholna in jabolčno mlečna kislinska fermentacija. Enološka sredstva in postopki. Pridelava vin možnih kategorij in slogov, z uvajanjem inovacij ter digitalizacije. Senzorična analiza. Nega, zorenje in stekleničenje vin. Trajnostna pridelava vina s prilagajanjem globalnim podnebnim spremembam. Komuniciranje s trgom.</p>	<p>Regionalization of viticulture, vine cane cultivation and vine varieties and rootstocks. Life processes and fertilization of the vine. Cultivation forms of the grapevine and the impact of agrotechnical and ampelotechnical works on the quality of grapes, also with the introduction of robotization. Management systems in viticulture (conventional, integrated, organic, sustainable, circular) and protection against diseases and pests. Long-term adaptation of viticulture to sustainable guidelines and global climate change. Planned grape harvesting as a key factor in wine quality. Viticulture legislation and agricultural policy. Grapes, structure and chemical composition of grapes, must and wine. Microflora of grapes, must and wine. Alcoholic and malolactic acid fermentation. Oenological means and procedures. Production of wines of possible categories and styles, with the introduction of innovations and digitization. Sensory analysis. Care, maturation and bottling of wines. Sustainable wine production by adapting to global climate change. Communicating with the market. Pomological division of fruit species, organography of fruit plants, phenophases of fruit plants, fruit</p>

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Pomološka razdelitev sadnih vrst, organografija sadnih rastlin, fenofaze sadnih rastlin, sadne vrste in sorte (priporočeni sadni izbor), postavitve in oskrba nasadov glede na način pridelave (oskrba tal, gojitvene oblike, oblikovanje in vzdrževanje krošnje, upogibanje, rez, mineralna prehrana, gnojenje, varstvo pred škodljivci in boleznimi). Logistika obiranja (določanje zrelosti, načrtovanje obiranja in obiranje, prehranska vrednost sadja) in shranjevanja sadja (načini shranjevanja, fiziološke bolezni plodov). Načini razmnoževanja sadnih rastlin - drevesničarstvo. Trajnostna pridelava sadja in inovativni trendi pridelave. Snovanje in načrtovanje sodobne vinske kleti, vključno s kletarsko opremo.

species and varieties (recommended fruit selection), establishment and maintenance of plantations according to the method of production (soil supply, cultivation forms, formation and maintenance of the canopy, bending, cutting, mineral nutrition, fertilization, protection against pests and diseases). Logistics of harvesting (determining ripeness, planning and harvesting, nutritional value of fruit) and storage of fruit (storage methods, physiological diseases of fruits). Ways of propagating fruit plants - tree nurseries Sustainable fruit production and innovative production trends. Design and planning of a modern wine cellar, including cellar equipment.

Temeljna literatura in viri / Readings:

Obvezna literatura / Required reading(s):
Bavčar D. Bavčar, Dejan, Černigoj, Borut (2020). Kletarjenje danes. URN:NBN:SI:DOC-RC0MIIVK from <http://www.dlib.si/?URN=URN:NBN:SI:DOC-RC0MIIVK>

Priporočena literatura/ Recommended reading(s):

Vršič S., Lešnik M. 2005. Vinogradništvo. Ljubljana: Kmečki glas, 360 str., ISBN: 961-203-221-1.
Journal of Landscape Governance. Visoka šola GRM Novo mesto.
Hrček L., Korošec-Koruza Z. 1996. Sorte in podlage vinske trte. Ptuj: SVA Veritas, 191 str.
Zbornik: 6. slovenščina Vinogradniško Vinarski kongres, Ptuj, 21. - 22. april 2023.
Revija: Der deutsche Weinbau, Meininger Verlag, Nemčija.
Zbornik: 6. slovenščina Vinogradniško Vinarski kongres, Ptuj, 21. - 22. april 2023
Nemanič J. 2011. Vinarstvo. Ljubljana: Zavod IRC. ISBN: 978-961-6857-44-4
Der deutsche Weinbau, Verlag Meininger
Weik B.: . 5. Neuauflage: aktualisiert und erweitert Praktikerhandbuch Oenologie. Neustadt/Weinstrasse, Meininger Verlag GmbH. ISBN: 978-3-87524-227-0
Revija: La Revue des Oenologues, Éditions OENOPLURIMÉDIA, France.

Cilji in kompetence:

Študent je usposobljen za raznolike naloge vinogradništvu:
Pridelovati kakovostno grozdje.
Smotrno načrtovati napravo oz. obnovo vinograda ter ga po postavitvi tudi oskrbovati.
Voditi in kontrolirati postopke pridelave grozdja, s poudarkom na kakovosti.
Zagotavljati skrb za sledljivost in voditi ustrezno dokumentacijo.
Izbrati racionalno in naravi prijazno tehnologijo.
Razumeti in določiti dolgoročno prilagajanje globalnim podnebnim spremembam in novostim v vinogradništvu.
Določiti čas trgatve na osnovi tehnološke zrelosti grozdja za posamezen vinski slog.
Izbrati optimalne kvasovke in bakterije za ciljno alkoholno in jabolčno mlečno kislinsko fermentacijo.
Uporabiti ustrezna enološka sredstva in postopke pri pridelavi in negi vina od grozdja do steklenice.

Objectives and competences:

To prepare students for a variety of tasks in viticulture:
To produce grapes of high quality.
To plan rationally by making or reconstructing the vineyard, and after planting the vineyard to cultivate it as well.
Management and control of grape growing practices, with an emphasis on quality.
Care for traceability and management of appropriate documentation.
Choose rational and nature-friendly technology.
Understand and determine long-term adaptation to global climate change and innovations in viticulture.
Determine the harvest time based on the technological maturity of the grapes for an individual wine style.
To select optimal yeasts and bacteria for targeted alcoholic and malolactic acid fermentation.
Use appropriate oenological tools and procedures in the production and care of wine from grape to bottle.

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Razume in dojame omejene možnosti senzorične analize vin ter zna izbrati ustrezne senzorične metode za oceno vina v določeni stopnji razvoja. Načrtovati digitalizacijo posameznih faz pridelave in nege vina.
Zna uporabiti postopke, ki pospešujejo trajnostno in konkurenčno pridelavo vin.

He understands and comprehends the limited possibilities of sensory analysis of wines and knows how to choose appropriate sensory methods for evaluating wine at a certain stage of development. Plan the digitization of individual phases of wine production and care.
He knows how to use procedures that promote sustainable and competitive wine production.

Predvideni študijski rezultati / učni izidi:

Znanje in razumevanje:
Sposobnost izbrati optimalne delovne procese od načrtovanja vinograda do tehnoloških postopkov pridelave grozdja.
Prilagoditi ravnotežje med rastjo in rodnostjo vinske trte.
Vodenje sadjarske oz. vinogradniške kmetije sposobnost oceniti potencial grozdja različnih letnikov.
Sestaviti enološke postopke, za posamezen letnik grozdja, po načelu »manj je več«.
Izbrati individualno nego za posamezen vinski slog vina.
Sposobnost skomunicirati kakovost in značaj vina na osnovi porekla, letnika, nege in sorte.
Poznavanje različnih načinov pridelave sadja.
Poznavanje rodnega lesa in zakonitosti rezi sadnih rastlin.
Razumevanje pomena določanja optimalne zrelosti sadja.
Zagovarja izbor ustreznih sadnih vrst in sort glede na izbrano tehnologijo pridelave.
Razumevanje soodvisnosti sort, podlag, tal in vinorodnih leg pri pridelavi vin z značajem in tipiko.

Intended learning outcomes:

Knowledge and understanding:
The ability to choose the optimal work processes from vineyard planning to the technological processes of grape production.
To adjust the balance between the growth and fertility of the vine.
Managing a fruit farm or wine farms.
The ability to assess the potential of grapes of different vintages.
Draw up oenological procedures, for individual vintages of grapes, according to the principle "less is more".
Choose individual care for each wine style of wine, the ability to communicate the quality and character of wine based on origin, vintage, care and variety.
Knowledge of different methods of fruit production.
Knowledge of fruiting wood and the laws of cutting fruit plants.
Understanding the importance of determining optimal fruit maturity.
Advocates the selection of suitable fruit species and varieties according to the selected production technology.
Understanding the interdependence of varieties, substrates, soils and wine-growing locations in the production of wines with character and typicality.

Metode poučevanja in učenja:

Predavanja.
Aktivno poučevanje (različne naloge v okviru kontaktnih ur).
Vaje.
Projektno delo.

E-izobraževanje (e-predavanja in e-vaje se lahko izvajajo v virtualnem elektronskem učnem okolju ali s pomočjo posebej v ta namen didaktično pripravljenih e-gradiv v virtualnem elektronskem učnem okolju).

Learning and teaching methods:

Lectures.
Active teaching (different tasks within the framework of contact hours).
Exercises.
Project work.

E-learning (e-lectures and e-tutorials may be held in a virtual electronic learning environment or with the help of specially designed e-material in a virtual electronic learning environment).

Načini ocenjevanja:

**Delež (v %) /
Weight (in %)**

Assessment:

Sprotno ocenjevanje (testi).	20	On-going assessment (tests).
Pisni izpit.	50	Written examination.
Kolokvij iz vaj.	20	Lab colloquium.
Projekt.	10	Project.

Reference nosilca / Lecturer's references:

- Vodenje vinogradniškega posestva (30 ha) in obnove vinogradov pri KZ-Metlika (1966 do 1988). NEMANIČ J., KOCJANČIČ M. 1998. Trgatev, predelava grozdja in alkoholno vrenje vinskega mošta. (Tehnološki list, 71/98). Ljubljana: Kmetijski inštitut Slovenije. ISBN 961-6224-32-8. (COBISS.SI-ID 630632).
- NEMANIČ J., BAVČAR, D., VANZO, A.. 2002. First results with differently macerated »Pinot noir« wines in Slovenia. Mitt. Klosterneuburg Rebe Wein Obst Fruechteverwert, 52 str. 21-28. (COBISS.SI-ID 1262184).
- NEMANIČ, Julij 2011. Vinarstvo. Ljubljana: Zavod IRC.
- NEMANIČ, Julij. 2017. Analiza stanja vinogradništva in vinarstva Slovenije. *Journal of landscape governance : JLG*, ISSN 2463-9834, May 2017, vol. 2, iss. 1, str. 5-[16], ilustr. https://uploads.publishwall.si/publishwall_new/128711/pdfs/645608042b74d.pdf . [COBISS.SI-ID 2048426754]
- NEMANIČ, Julij. 2015. Vino - naš kruh, kultura in gastronomska dediščina, Zbornik ob 10. obletnici delovanja Društva vinogradnikov Raka, str. 125 do 140. ISBN 978-961-281-925-5
- NEMANIČ, Julij. 2017. Vinorodni okoliši Posavja pridelujejo celovito kakovostno piramido vin, Zbornik, 5. slovenščina vinogradniško-vinarski kongres , Šentjernej 2017, str. 243 do 253. ISBN 978-961-6998-11-6