**Erasmus Course Catalogue of Undergraduate Study of Mediterranean Agriculture and Master's Degree Programme Mediterranean Agronomy**

**Academic Year 2025./2026.**

| Course (ENG) | Course (CRO) | Hours (Lecture+Seminar+ Exercise+Fieldwork) | ECTS | Semester | Study Programme | Course Teacher |
|---|---|---|---|---|---|---|
| **Introduction to Agrobiotechnical Science** | Uvod u agrobiotehničke znanosti | 20-0-0-0 | **2** | Winter | Undergraduate Study of Mediterranean Agriculture | Vedran Poljak |
| **Basics of Winemaking** | Osnove vinarstva | 30-0-0-0 | **3** | Winter | Undergraduate Study of Mediterranean Agriculture | Leo Gracin |
| **Basics of Viticulture** | Osnove vinogradarstva | 24-0-6-0-0 | **3** | Winter | Undergraduate Study of Mediterranean Agriculture | Tatjana Klepo Tomislav Svalina |
| **Organic and Integrated Production** | Ekološka i integrirana proizvodnja | 20-4-0-6 | **3** | Winter | Undergraduate Study of Mediterranean Agriculture | Pavao Gančević |
| **Mediterranean Food** | Mediteranska hrana | 30-0-0-0 | **3** | Summer | Undergraduate Study of Mediterranean Agriculture | Vedran Poljak |
| **Olive Growing** | Maslinarstvo | 20-0-5-5 | **3** | Summer | Undergraduate Study of Mediterranean Agriculture | Frane Strikić |
| **Viticulture Practice 1** | Vinogradarska praksa I | 12-9-0-30 | **4** | Summer | Undergraduate Study of Mediterranean Agriculture | Tatjana Klepo Tomislav Svalina |
| **Management and Entrepreneurship in Agriculture** | Menadžment i poduzetništvo u poljoprivredi | 40-14-6-0 | **6** | Summer | Undergraduate Study of Mediterranean Agriculture | Josip Gugić |
| **Landscape Design** | Uređenje krajobraza | 20-30-0-30 | **6** | Summer | Undergraduate Study of Mediterranean Agriculture | Boris Dorbić |
| **Course (ENG)** | **Course (CRO)** | **Hours (Lecture+Seminar+ Exercise+Fieldwork)** | **ECTS** | **Semester** | **Study Programme** | **Course Teacher** |
| **Biodiversity of the Mediterranean** | Bioraznolikost Mediterana | 25-5-20-0 | **5** | Winter | Master's Degree Programme Mediterranean Agronomy | Tatjana Klepo |
| **Mediterranian Wildlife Animal Species Population** | Divlje populacije mediteranskih životinjskih vrsta | 20-15-0-0 | **3** | Winter | Master's Degree Programme Mediterranean Agronomy | Pavao Gančević |
| **Invasive Harmful Organisms** | Invazivni štetni organizmi | 20-15-10 | **5** | Summer | Master's Degree Programme Mediterranean Agronomy | Mario Bjeliš Ivan Tavra |

**Undergraduate Study of Mediterranean Agriculture**

**Course Catalogue**

<table>
<tr><td colspan="2">NAME OF THE COURSE</td><td colspan="6">INTRODUCTION TO AGROBIOTEHNICAL SCIENCE</td></tr>
<tr><td>Code</td><td>MPO1</td><td>Year of study</td><td colspan="5">first</td></tr>
<tr><td>Course teacher</td><td>associate professor<br>PhD Vedran Poljak</td><td>Credits (ECTS)</td><td colspan="5">3</td></tr>
<tr><td rowspan="2">Associate teachers</td><td rowspan="2"></td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>E</td><td>F</td></tr>
<tr><td>20</td><td></td><td></td><td></td></tr>
<tr><td>Status of the course</td><td>mandatory</td><td>Percentage of application of e-learning</td><td colspan="5"></td></tr>
<tr><td colspan="7">COURSE DESCRIPTION</td></tr>
<tr><td>Course objectives</td><td colspan="6">Acquisition of the necessary knowledge and skills to understand:<br><br>- the contemporary socioeconomic context of agro-economic orientation today,<br><br>as well as the historical dimension of villages and peasantry in Croatia.<br>global integration processes and the significance of agro-economic activity for Croatian society.<br><br>- terminological determinants in defining institutions in the production-processing-distribution-consumer chain<br><br>- forms of strategic linkage and organization of production and business in agriculture.<br><br>- the basis of human nutrition, requirements for food safety<br><br>and food security, food quality control, regulations and business ethics.</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="6">none</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="6">After passing the exam in the Introduction to Agrobiotechnical Sciences module, students will be able to:<br>recognize current social processes and understand the consequences of modernization on life in villages and peasantry<br>recognize the impact of globalization on agroeconomic activities in Croatian society<br>explain the importance of science in agriculture in modern society<br>explain the importance of science in agriculture for the development of villages in their environment</td></tr>
<tr><td>Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="6">1. History of agriculture in the Mediterranean. Rural space and modernization. (2 hours)<br>The new identity of rural areas and farmers in the context of global integration. (4 hours)<br>2. Characteristics and types of business entities and family farms. Business functions and modern forms of organizational structure (4 hours)<br>3. Relationships between and within factors of production. (2 hours)<br>4. Concept, purpose, goals and planning systems. (2 hours)<br>5. Competition and quality in the promotion and processing chain of agricultural and food products. (2 hours)<br>6. Basics of food sustainability and food safety with ethical foundations (4 hours)</td></tr>
<tr><td>Format of instruction</td><td colspan="3">☒ lectures<br>☐ seminars and workshops<br>☐ exercises</td><td colspan="3">☐ independent assignments<br>☐ multimedia<br>☐ laboratory</td></tr>
</table>

| | | |
|---|---|---|
| | ☐ on line in entirety<br>☐ partial e-learning<br>☐ field work | ☐ work with mentor<br>☐ (other) |

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|---|---|---|---|---|---|---|
| Student responsibilities | Students are required to attend classes (lectures, seminars and exercises) and actively participate in the teaching process, which will be evaluated in the final assessment by the weight coefficient of 0.1 (10%). | | | | | |
| Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course) | Class attendance | 0,5 | Research | | Practical training | |
| | Experimental work | | Report | | (Other) | |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | 1 | Oral exam | **1,5** | (Other) | |
| | Written exam | | Project | | (Other) | |
| Grading and evaluating student work in class and at the final exam | A 60-minute written exam will be held during the semester. Students who pass with a positive grade will have an oral exam during the exam period.<br>The final grade for the course includes the grade from the written exam and the grade from the oral exam. | | | | | |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | 1. Lectures in pdf format | | |
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| Optional literature (at the time of submission of study programme proposal) | Agriculture strategy until 2030. pdf<br>HAZU: A Thousand Years of the First Mention of Fishing in Croatia (1995; Zagreb, Sali, Split): Croatian Academy of Sciences and Arts, Zagreb.<br>EC: From farm to fork .pdf. |
| Quality assurance methods that ensure the acquisition of exit competences | The quality of teaching will be monitored by collecting feedback from students through personal consultations, discussions and questions asked during classes. At the end of the semester, the evaluation of the course and teachers will be carried out through an anonymous student survey by filling out an evaluation questionnaire. Student performance in the final exam will be analyzed, and the information collected will be used to improve the quality of teaching in the next academic year. |
| Other (as the proposer wishes to add) | |

| **NAME OF THE COURSE** | **Basics of Winemaking** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | | Year of study | 2. | | | |
| Course teacher | Leo Gracin Ph.D | Credits (ECTS) | 3 | | | |
| Associate teachers | | Type of instruction (number of hours) | L | S | E | F |
| | | | 30 | 0 | 0 | 0 |
| Status of the course | Elective | Percentage of application of e-learning | 0 | | | |

| **COURSE DESCRIPTION** | |
|---|---|
| Course objectives | Students will learn about wine production through the history of winemaking, the overall financial importance of production and through the most important varieties and wine brands. Students will get to know the basic stages and procedures of wine production. Get to know the chemical composition of wine and its influence on the taste, smell and color of wine.<br>Familiarize with the basic legal framework important for wine production. |

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| Course enrolment requirements and entry competences required for the course | |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After successfully completing the course, the student will be able to:<br>- Describe the history of winemaking<br>- Explain the main varieties and the most important wine "brands" (labels) of Croatia<br>- Explain the main varieties and the most important wine "brands" in the world<br>- Describe the basic styles of wine<br>- Explain the chemical composition of wine<br>- Explain the technology for the production of white, rosé and red wines<br>- Explain the basic sensory methods of wine quality assessment<br>- Explain the basic methods of wine analysis<br>- Explain the importance of enological agents and corrections of the chemical composition of wine<br>- Explain the basics of legislation important for wine production |
| Course content broken down in detail by weekly class schedule (syllabus) | Introduction, history of winemaking, 2 P<br>Winemaking of the world with an emphasis on the EU and Croatia 2 P<br>Chemical composition of grapes and wine and the main "styles" of wine 4 P<br>Wine production technology, fermentation and production equipment 2 P<br>The importance of microorganisms in wine production 2 P<br>Red wine and rose wine production technology, emphasis on maceration 3 P<br>White wine production technology 2 P<br>Chemical analyzes of grape and wine ingredients 4 P<br>Must and bean corrections, importance of additives in wine production 2 P<br>Wine stability 2 P<br>Sensory assessment of wine quality 2 P<br>Legislation in wine production 2 P |

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| Format of instruction | ☒ lectures<br>☐ seminars and workshops<br>☐ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☐ field work | ☒ independent assignments<br>☒ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Attendance at lectures and audit work in the amount of at least 70% of the anticipated hourly rate. Passed (rated) colloquia. | |

| Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course) | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 1,3 | Research | | Practical training | |
| | Experimental work | | Report | | Independent work (Other) | 0,3 |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | 0.9 | Oral exam | 0,5 | (Other) | |
| | Written exam | | Project | | (Other) | |

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| Grading and evaluating student work in class and at the final exam | Two colloquiums will be organized during the course. The condition for joining the second colloquium is a positive assessment (min. 60%) of the first colloquium. The overall grade is obtained through the percentage of points from the two colloquia. Students can obtain a grade through a written exam during the exam period. The student can improve the grade achieved in the exam or colloquium by one grade in the oral exam. Assessment criteria: 60%-70% sufficient; 71%-80% good; 81%-90% very good; 90%-100% excellent. |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | Herjavec Stanka, Vinarstvo, Zagreb : Nakladni zavod Globus, 2019 | | |

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| | Lecture materials (available on the study website) | | |
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| Optional literature (at the time of submission of study programme proposal) | R. Jackson „Wine science“, Academic press, 2000<br>Riberau-Gayon, P., D., Dubourdieu, B., Doneche, A., Lonvaud (2006): Handbook of enology-The microbiology of Wine and Vinification, Volume 1, Paris<br>Riberau-Gayon, P., D., Dubourdieu, B., Doneche, A., Lonvaud (2006): Handbook of enology-The Chemistry of Wine, Stabilization and Treatments, second edition Volume 2, Paris | | |
| Quality assurance methods that ensure the acquisition of exit competences | • Keep attendance attendance records<br>• Annual analysis of successful exams<br>• Student survey in order to evaluate teachers<br>• Self-evaluation of teachers | | |
| Other (as the proposer wishes to add) | | | |

| **NAME OF THE COURSE** | **Basics of Viticulture** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | MEP OVIV2 | Year of study | 2 | | | |
| Course teacher | Assoc. Prof. Tatjana Klepo, PhD | Credits (ECTS) | 3 | | | |
| Associate teachers | Tomislav Svalina, MSc | Type of instruction (number of hours) | L | S | E | F |
| | | | 24 | | 6 | |
| Status of the course | Mandatory | Percentage of application of e-learning | | | | |

**COURSE DESCRIPTION**

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|---|---|
| Course objectives | Understanding the vegetative and generative organs of the grapevine and their functions<br>Acquiring knowledge on physiological processes of the grapevine and interactions with environmental conditions<br>Gaining basic theoretical and practical knowledge in grapevine cultivation |
| Course enrolment requirements and entry competences required for the course | |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | Upon successful completion of the module, students will be able to:<br>• Explain the basic morphology and function of grapevine organs<br>• Identify generative organs of the grapevine<br>• Analyze environmental conditions for grapevine cultivation<br>• Assess basic limitations and advantages of particular sites for vineyard establishment<br>• Evaluate characteristics of rootstocks and grape varieties<br>• Describe basic cultivation techniques in viticulture |

| Course content broken down in detail by weekly class schedule (syllabus) | **Topic** | **L** | **S** | **P** |
|---|---|---|---|---|
| | History of grapevine cultivation, domestication, taxonomy | 2 | | |
| | Morphology, structure and function of vegetative organs | 2 | | 2 |
| | Structure and function of generative organs | 2 | | |
| | Grapevine physiology and phenological stages | 2 | | |
| | Environmental conditions for viticulture | 2 | | |
| | Specifics of ecological grapevine growing | 2 | | |
| | Vineyard establishment | 2 | | 2 |

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|---|---|---|---|
| | Basics of pruning and canopy management in a fruit-bearing vineyard | 2 | 2 |
| | Rootstocks | 2 | |
| | Grape varieties | 2 | |
| | Grape ripening and chemical composition | 2 | |
| | Harvesting | 2 | |

| | | |
|---|---|---|
| Format of instruction | ☒ lectures<br>☐ seminars and workshops<br>☒ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Minimum 80% attendance in lectures and practicals. | |

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|---|---|---|---|---|---|---|
| Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course) | Class attendance | 1,5 | Research | | Practical training | |
| | Experimental work | | Report | | Independent work | 1 |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | | Oral exam | 0,25 | (Other) | |
| | Written exam | 0,25 | Project | | (Other) | |

| | |
|---|---|
| Grading and evaluating student work in class and at the final exam | There will be two midterm exams covering half of the course content each, consisting of 15 written questions. Student evaluation is based on:<br>• 70% individual work<br>• 15% participation and engagement in lectures<br>• 15% participation and engagement in practical classes<br>Final grades are determined after the course is completed and knowledge assessed. Two exam periods are held. The final exam (for non-passed content) is both written and oral. |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | Mirošević N. i Karoglan Kontić J. (2008) Vinogradarstvo, Nakladni zavod Globus, Zagreb | | |
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| Optional literature (at the time of submission of study programme proposal) | Coombe B.G. and Dry P.R. (2008) Viticulture Volume 2 Practices, Winetitles Pty Ltd., Ashford, Australia<br><br>Galet P. (2000) General Viticulture, Oenoplurimedia<br><br>Mullins M.G., Bouquet A. Williams L. E. (1992) Biology of grapevine, Cambridge University Press |
| Quality assurance methods that ensure the acquisition of exit competences | • Monitoring of student obligations by the instructor<br>• Annual student satisfaction surveys<br>• Exam questions must align with learning outcomes; one-third of subjects are reviewed annually<br>• The Quality Committee reserves the right to independently verify alignment |
| Other (as the proposer wishes to add) | Teaching is supported by:<br>• Experimental vineyard (0.6 ha) |

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|---|---|
| | • Vineyard tools and equipment<br>• Experimental winery and laboratory |

| **NAME OF THE COURSE** | **Organic and Integrated Production** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | MEP I3 | Year of study | 3 | | | |
| Course teacher | Assoc. prof. Pavao Gančević, PhD | Credits (ECTS) | 3 | | | |
| Associate teachers | | Type of instruction (number of hours) | L | S | E | F |
| | | | 20 | 4 | | 6 |
| Status of the course | Elective | Percentage of application of e-learning | | | | |

**COURSE DESCRIPTION**

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|---|---|
| Course objectives | • Introduce students to the significance, opportunities, and specificities of crop cultivation in ecological and integrated plant production systems.<br>• Provide basic knowledge on cultivation of plants (grapevine/fruit/vegetables/ornamentals) in these systems and highlight differences and advantages over conventional production through lectures, field visits, and seminars. |
| Course enrolment requirements and entry competences required for the course | • Enrolment in the 3rd year of study<br>• Passed course: Basics of Viticulture / Basics of Pomology / Basics of Vegetable Production<br>• Passed course: Basics of Phytomedicine |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After passing the exam, students will be able to:<br>• Describe the features, importance, and objectives of ecological and integrated agricultural production<br>• Identify advantages and disadvantages of various production systems (conventional-integrated-ecological), and recommend production paths, justifying the benefits of agrochemical-free production<br>• Describe and justify approved methods of soil cultivation, fertilization, and plant protection in ecological and integrated systems<br>• Explain the importance of ecological/integrated production for environmental protection and biodiversity conservation<br>• Explain standardization measures and labeling of eco-products<br>• Present information, highlight problems, and suggest solutions in ecological and integrated agriculture |
| Course content broken down in detail by weekly class schedule (syllabus) | • Introduction, basic features and historical development of ecological/integrated production (2 L)<br>• Legal framework (1 L)<br>• Transition from conventional to eco/integrated farming (2 L)<br>• Ecological farming approaches (2 L)<br>• Soil as a key factor, soil management and fertilization (3 L)<br>• Variety/Species selection (1 L)<br>• Crop rotation (1 L)<br>• Plant protection (3 L)<br>• Harvesting, storage, packaging, labeling, and distribution (2 L)<br>• Ecological/integrated production of grapevine/fruit/vegetables/ornamentals (2 L)<br>• Economic aspects (1 L)<br>• Field visits (6 T)<br>• Seminar presentations (4 S) |

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|---|---|---|
| Format of instruction | ☒ lectures<br>☒ seminars and workshops<br>☐ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☒ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |

<table>
<tr><td>Student responsibilities</td><td colspan="6">Attendance at lectures<br>Completed seminar assignments<br>Attendance at fieldwork</td></tr>
<tr><td rowspan="6">Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</td><td>Class attendance</td><td>1</td><td>Research</td><td></td><td>Practical training</td><td></td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td>(Other)</td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td>0,25</td><td>(Other)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td>0,75</td><td>(Other)</td><td></td></tr>
<tr><td>Written exam</td><td>1</td><td>Project</td><td></td><td>(Other)</td><td></td></tr>
<tr><td colspan="6"></td></tr>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="6">Assessment and Evaluation:<br>• Attendance – 10% of grade<br>• Class participation – 10%<br>• Seminar preparation and presentation – 30%<br>• Final exam – 50%<br>Grading Scale (Final Exam):<br>• <60% – Insufficient (1)<br>• 61–70% – Sufficient (2)<br>• 71–80% – Good (3)<br>• 81–90% – Very Good (4)<br>• 91–100% – Excellent (5)</td></tr>
<tr><td rowspan="7">Required literature (available in the library and via other media)</td><td colspan="3">Title</td><td>Number of copies in the library</td><td colspan="2">Availability via other media</td></tr>
<tr><td colspan="3">Kisić, I.: Uvod u ekološku poljoprivredu, sveučilišni udžbenik, Sveučilište u Zagrebu Agronomski fakultet, Zagreb, 2013.</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3">Znaor, D. (1996): Ekološka poljoprivreda, Nakladni zavod Globus, Zagreb.</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3">Igrc Barčić, Jasminka, Maceljski, M. (2001). Ekološki prihvatljiva zaštita bilja od štetnika. Čakovec: Zrinski d. d.</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3">Tehnološke upute za integriranu proizvodnju poljoprivrednih proizvoda (2013). Zagreb: Ministarstvo poljoprivrede RH.</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3">Ciglar, I. (1998). Integrirana zaštita voćaka i vinograda. Čakovec: Zrinski d. d.</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="3">Kisić, I.: Uvod u ekološku poljoprivredu, sveučilišni udžbenik, Sveučilište u Zagrebu Agronomski fakultet, Zagreb, 2013.</td><td></td><td colspan="2"></td></tr>
<tr><td colspan="6"></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="6">Robert, S. (1999). Organic farming: methods and markets: an introduce to ecological agriculture.<br>De Walter, L.F. (2005). Ecological Agriculture and Rural Development in Central and Eastern European Countries.<br>IOBC Bulletin „Guidelines for Integrated Productions“ odabrana područja poljoprivredne proizvodnje.<br>Lind, K., Lafter, G., Schloffter, K., Innerhofer, G., Meister, H. (2003). Organic Fruit Growing, CABI Publishing.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="6">Monitoring of student obligations<br><br>Annual student survey on teaching quality<br><br>Exam alignment with learning outcomes reviewed annually by program leadership and the Quality Committee</td></tr>
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| Other (as the proposer wishes to add) | |

| NAME OF THE COURSE | Mediterranean Food | | | | | |
|---|---|---|---|---|---|---|
| **Code** | MPI7 | Year of study | third | | | |
| Course teacher | associate professor PhD Vedran Poljak | Credits (ECTS) | 3 | | | |
| Associate teachers | | Type of instruction (number of hours) | L | S | E | F |
| | | | 25 | | | 10 |
| Status of the course | electoral | Percentage of application of e-learning | | | | |

**COURSE DESCRIPTION**

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|---|---|
| Course objectives | Acquisition of the necessary knowledge and skills to understand:<br>- the role of macro and micronutrients in food for humans<br>- the energy and nutritional value of food and daily energy needs<br>- the dangers of food and undesirable food ingredients<br>- plant and animal species that are characteristic of the Mediterranean diet<br>- methods of food preparation characteristic of the Mediterranean diet |
| Course enrolment requirements and entry competences required for the course | Completed second year |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After passing the exam in the Mediterranean Food module, students will be able to:<br>analyze the types of food of animal and plant origin in the Mediterranean ecosystem<br>differentiate the basic characteristics of the Mediterranean diet<br>assess the dangers of food of Mediterranean origin<br>argue and compare the value of Mediterranean food in relation to continental |
| Course content broken down in detail by weekly class schedule (syllabus) | 1. Macronutrients in food: Carbohydrates, proteins and fats (2 hours)<br>2. Micronutrients in food in plant and animal species in the Mediterranean ecosystem (2 hours)<br>3. Food of plant origin (fruit) characteristic of the Mediterranean and its preparation (3 hours)<br>4. Food of plant origin (vegetables) characteristic of the Mediterranean and its preparation (3 hours)<br>5. Food of animal origin characteristic of the Mediterranean and its preparation (3 hours)<br>6. Food of sea origin characteristic of the Mediterranean and its preparation (3 hours)<br>7. Food characteristic of the Mediterranean field exercises (10 hours)<br>8. Characteristics and pyramid of the Mediterranean diet (2 hours)<br>9. Food supplements originating from the Mediterranean ecosystem (2 hours)<br>10. Toxicology of food originating from the Mediterranean ecosystem (2 hours)<br>11. Nutritional and health claims for food originating from the Mediterranean ecosystem (3 hours) |
| Format of instruction | ☒ lectures<br>☐ seminars and workshops<br>☒ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☒ field work<br>☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |

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|---|---|---|---|---|---|---|
| Student responsibilities | Students are required to attend classes (lectures, seminars and exercises) and actively participate in the teaching process, which will be evaluated in the final assessment by the weight coefficient of 0.1 (10%). | | | | | |
| Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course) | Class attendance | 0,5 | Research | | Practical training | |
| | Experimental work | | Report | | (Other) | |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | 1 | Oral exam | **1,5** | (Other) | |
| | Written exam | | Project | | (Other) | |
| Grading and evaluating student work in class and at the final exam | A 60-minute written exam will be held during the semester. Students who pass with a positive grade will have an oral exam during the exam period.<br>The final grade for the course includes the grade from the written exam and the grade from the oral exam. | | | | | |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | 1. Lectures in pdf format | | |
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|---|---|
| Optional literature (at the time of submission of study programme proposal) | A. Capurso & G. Crepaldi: Benefits of the Mediterranean Diet in the Elderly Patient (Practical Issues in Geriatrics)21 Aug 2019<br>G. Mateljan. World healthiest Food, Znanje, Split, 2024.III Edition |
| Quality assurance methods that ensure the acquisition of exit competences | The quality of teaching will be monitored by collecting feedback from students through personal consultations, discussions and questions asked during classes. At the end of the semester, the evaluation of the course and teachers will be carried out through an anonymous student survey by filling out an evaluation questionnaire. Student performance in the final exam will be analyzed, and the information collected will be used to improve the quality of teaching in the next academic year. |
| Other (as the proposer wishes to add) | |

| **NAME OF THE COURSE** | **Olive Growing** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | MEP IH4 | Year of study | 2 | | | |
| Course teacher | Prof. Frane Strikić, PhD | Credits (ECTS) | 3 | | | |
| Associate teachers | | Type of instruction (number of hours) | L | S | E | F |
| | | | 20 | | 5 | 5 |
| Status of the course | Mandatory | Percentage of application of e-learning | | | | |

| **COURSE DESCRIPTION** | |
|---|---|
| Course objectives | To acquire necessary knowledge and practical skills for managing different olive production systems. |
| Course enrolment requirements and entry competences required for the course | Completed course Basics of Pomology |

| | |
|---|---|
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After passing the exam, the student will be able to:<br>• Describe the structure and function of various olive tree organs<br>• Analyze agroecological conditions for olive cultivation<br>• Describe technological procedures for soil preparation when establishing an olive orchard<br>• Determine varietal composition for new olive plantations<br>• Apply agro-technical and pomotechnical operations in an olive orchard<br>• Use mechanization in olive production<br>• Differentiate between olive varieties depending on the end product |

| Course content broken down in detail by weekly class schedule (syllabus) | | | |
|---|---|---|---|
| **Topic** | **L** | **P** | **F** |
| Introduction to the course | 0.5 | | |
| History of olive cultivation | 0.5 | | |
| Origin and botanical classification of the olive | 1 | | |
| Tree morphology | 1 | | |
| Structure and function of olive organs | 2 | 0.5 | |
| Biology of olive flowering and fertilization | 2 | 0.5 | 1 |
| Phenological cycle of the olive | 1 | | |
| Olive response to environmental growing conditions | 1 | | |
| Olive varieties | 2 | 1 | |
| Olive propagation | 1 | 1 | |
| Site selection for olive grove establishment | 1 | | |
| Olive planting | 1 | 0.5 | 1 |
| Agrotechnics for young and fruit-bearing orchards | 0.5 | 0.5 | |
| Physiology of olive mineral nutrition | 1 | | |
| Irrigation of olive groves | 1 | 0.5 | |
| Pomotechnical operations in young and fruit-bearing orchards | 0.5 | 0.5 | 1 |
| Olive tree rejuvenation | 1 | | |
| Growing systems | 1 | | 1 |
| Harvesting and transport of olives | 1 | | 1 |

| Format of instruction | | | |
|---|---|---|---|
| ☒ lectures<br>☐ seminars and workshops<br>☒ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☒ field work | | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☒ work with mentor<br>☐ (other) | |

| Student responsibilities | |
|---|---|
| | Students must attend at least 80% of lectures and 100% of practical and field classes and actively participate. Attendance and participation will be recorded and evaluated in the final grade. |

| Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course) | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 1,3 | Research | | Practical training | 0,3 |
| | Experimental work | | Report | | (Other) | |
| | Essay | | Seminar essay | | (Other) | |
| | Tests | | Oral exam | 1,4 | (Other) | |
| | Written exam | | Project | | (Other) | |

| Grading and evaluating student work in class and at the final exam | |
|---|---|
| | The subject matter is treated as one complete unit, evaluated by an oral exam at the end of the semester. A minimum score of 60% is required to pass.<br>Grading Scale:<br>• <60% – Fail<br>• 60–70% – Sufficient (2)<br>• 70–80% – Good (3)<br>• 80–90% – Very Good (4)<br>• 90–100% – Excellent (5) |

| | | | |
|---|---|---|---|
| | | | |
| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
| | Fiorino, P. (2007) Olea Trato di olivicultura. Edagricolre. Bologna | | |
| | Gugić, M., Šarolić, M. (2017) Maslina i proizvodi. Matica hrvatska, Sinj | | |
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| | | | |
| | | | |
| Optional literature (at the time of submission of study programme proposal) | | | |
| Quality assurance methods that ensure the acquisition of exit competences | Monitoring student participation by the instructor<br>Annual student survey on teaching quality<br>Exam questions must align with learning outcomes; one-third of courses are reviewed annually by the program leader<br>The Quality Committee reserves the right to assess exam alignment independently | | |
| Other (as the proposer wishes to add) | | | |

| **NAME OF THE COURSE** | **Viticulture Practice 1** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | MEP IVIV4 | Year of study | 2 | | | |
| Course teacher | Assoc. Prof. Tatjana Klepo, PhD | Credits (ECTS) | 4 | | | |
| Associate teachers | Tomislav Svalina, MSc | Type of instruction (number of hours) | L | S | E | F |
| | | | 12 | 9 | | 30 |
| Status of the course | Mandatory | Percentage of application of e-learning | | | | |
| **COURSE DESCRIPTION** | | | | | | |
| Course objectives | To acquire practical knowledge and skills in grapevine cultivation. | | | | | |
| Course enrolment requirements and entry competences required for the course | Completed course Basics of Viticulture | | | | | |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After completing the module, students will be able to:<br>• Prune grapevines<br>• Identify training systems<br>• Apply viticultural techniques in a fruit-bearing vineyard<br>• Evaluate grape quality<br>• Develop an annual vineyard work plan | | | | | |
| Course content broken down in detail by weekly class schedule (syllabus) | **Topic** | | **L** | **S** | **F** | |
| | Vineyard planning and planting | | 4 | | | |
| | Regionalization and classification of viticultural areas | | 4 | | | |
| | Terroir concept | | 4 | | | |
| | Vineyard internship: soil management, pruning, trellis system | | | 3 | 10 | |
| | Vineyard internship: canopy management | | | 3 | 10 | |
| | Vineyard internship: rootstocks, grape varieties, terroir | | | 3 | 10 | |

| | | |
|---|---|---|
| Format of instruction | ☒ lectures<br>☒ seminars and workshops<br>☐ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☒ field work | ☒ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☒ work with mentor<br>☐ (other) |

| | |
|---|---|
| Student responsibilities | Minimum 80% attendance at lectures and fieldwork is required. |

| Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course) | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 0,5 | Research | | Practical training | 2 |
| | Experimental work | | Report | | Independent work | 0,4 |
| | Essay | | Seminar essay | 0,5 | (Other) | |
| | Tests | | Oral exam | 0,3 | (Other) | |
| | Written exam | 0,3 | Project | | (Other) | |

| | |
|---|---|
| Grading and evaluating student work in class and at the final exam | Student evaluation is based on:<br>• 70% participation and work during field practice (internship)<br>• 15% seminar work<br>• 15% participation in lectures<br>Final assessment is determined after completion of teaching and knowledge testing. Two exam dates are organized during the exam period. The final exam is written and oral. |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | Mirošević N. i Karoglan Kontić J. (2008) Vinogradarstvo, Nakladni zavod Globus, Zagreb | | |
| | | | |
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| | |
|---|---|
| Optional literature (at the time of submission of study programme proposal) | Coombe B.G. and Dry P.R. (2008) Viticulture Volume 2 Practices, Winetitles Pty Ltd., Ashford, Australia<br><br>Galet P. (2000) General Viticulture, Oenoplurimedia |
| Quality assurance methods that ensure the acquisition of exit competences | Monitoring student obligations<br>Annual student satisfaction surveys<br>Annual review of one-third of courses to ensure alignment with learning outcomes<br>The Quality Committee retains the right to independently review exam content alignment |
| Other (as the proposer wishes to add) | Collaboration with growers where students will complete hands-on vineyard training |

| **NAME OF THE COURSE** | **MANAGEMENT AND ENTREPRENEURSHIP IN AGRICULTURE** | | | | | |
|---|---|---|---|---|---|---|
| **Code** | | Year of study | II. | | | |
| Course teacher | Josip Gugić, PhD, Associate Professor | Credits (ECTS) | 6 | | | |
| Associate teachers | | | L | S | E | F |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Type of instruction (number of hours) | 40 | 14 | 6 | |
| Status of the course | Mandatory | Percentage of application of e-learning | | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course objectives | To prepare and enable students through proactive education for efficient use of management tools in planning, organization and analysis of business operations of the family farm and in entrepreneurial ventures.<br>By acquiring theoretical and practical managerial knowledge and skills of production systems in agriculture and the economic aspect of individual branches of agricultural production to increase the competiveness of future university baccalaureus/baccalaurea in the modern labour market and knowledge economy. |
| Course enrolment requirements and entry competences required for the course | |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | Upon successful completion of this course students will be able to:<br>• explain management and entrepreneurship functions in agriculture,<br>• describe the forms of production and business organization in agriculture,<br>• identify factors that have an impact on the technical and economic efficiency of agricultural production systems,<br>• do calculations of agricultural production,<br>• interpret the core financial statements and financial performance indicators,<br>• analyse the business of family farm,<br>• identify the core factors that characterise investment in agriculture and risk sources. |
| Course content broken down in detail by weekly class schedule (syllabus) | Introduction to the course. Introducing students with the course content, the manner of passing the exam and the exam literature. (1L)<br>Introduction to seminars. Instructions for development of the seminar work. Instructions for presenting the topic of the seminar work. (3S)<br>Definition, structure and specificities of management and entrepreneurship in agriculture. (3L)<br>Management and entrepreneurship functions in agriculture. (8L+2S)<br>Production and business organisation in agriculture. (6L+2S)<br>Production factors, business assets and production theory. (5L+1E+1S)<br>Costs and calculation - theory and analysis. (5L+2E+2S)<br>Business success and indicators of business success. (2L+2E+1S)<br>Core financial statements and business analysis. (2L+1E+1S)<br>Investment analysis and risk management in agriculture. (6L+1S)<br>Entrepreneurial alternatives and strategies in agriculture. (2L+1S) |
| Format of instruction | ☒ lectures<br>☒ seminars and workshops<br>☒ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☐ field work<br>☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☒ work with mentor<br>☐ (other) |
| Student responsibilities | Students are required to attend classes (lectures, seminars and exercises) and actively participate in the teaching process, which will be evaluated in the final assessment by the weight coefficient of 0.1 (10%). |

| Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course) | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 0.6 | Research | | Practical training | |
| | Experimental work | | Report | | (Other) | |
| | Essay | | Seminar essay | 1.2 | (Other) | |
| | Tests | | Oral exam | 2.1 | (Other) | |
| | Written exam | 2.1 | Project | | (Other) | |

<table>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="3">The final grade for the course is a weighted sum of marks presence and activities of students during their attendance of the course (weighting 0.1), evaluation of seminar work (weight 0.2), mark from the written exam (weight 0.35) and evaluation of the oral examination (weight 0.35).<br>Written exam scores: <60% - inadequate (1), 60-70% - sufficient (2), 71-80% - good (3), 81-90% - very good (4), 91-100% - excellent (5). Written exams could be passed by two written partial exams during the course. The written part-time exam during the course is valid for the current academic year as a part of the written exam. A positively written exam is a condition for accessing an oral exam.<br>Assessment of oral exam: <60% - inadequate (1), 60-70% - sufficient (2), 71-80% - good (3), 81-90% - very good (4), 91-100% - excellent (5).</td></tr>
<tr><td rowspan="8">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>Grgić, I., Franić, R., Cerjak, M., Mikuš, O., Hadelan, L., Mesić, Ž., Zrakić, M., Bokan, N. 2017. Priručnik iz agrarne ekonomike-Pojmovnik i osnovne metode. Sveučilište u Zagrebu, Agronomski fakultet i Hrvatsko agroekonomsko društvo, Zagreb</td><td>1</td><td></td></tr>
<tr><td>Jelavić, A., Ravlić, P., Starčević, A., Šamanović, J. 1993. Ekonomika poduzeća. Ekonomski fakultet, Zagreb</td><td>1</td><td></td></tr>
<tr><td>Karić, M., Štefanić, I. 1999. Troškovi i kalkulacije u poljoprivrednoj proizvodnji. Sveučilište Josipa Jurja Strossmayera, Poljoprivredni fakultet, Osijek</td><td>1</td><td></td></tr>
<tr><td>Majcen, Ž. 1988. Troškovi u teoriji i praksi, Školska knjiga, Zagreb</td><td>1</td><td></td></tr>
<tr><td>Sikavica, P., Bahtijarević-Šiber, F., Pološki-Vokić, N. 2008. Temelji menadžmenta. Školska knjiga, Zagreb</td><td>1</td><td></td></tr>
<tr><td>Škrtić, M., Mikić, M. 2011. Poduzetništvo. Sinergija, Zagreb</td><td>1</td><td></td></tr>
<tr><td colspan="3"></td></tr>
<tr><td colspan="3"></td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">Grgić, Z., Par, V., Juračak, J., Njavro, M., Šakić, B. 2006. Management u poljoprivredi. Interna skripta. Veleučilište “Marko Marulić”, Knin<br>Kay, R. D., Edwards, W. M. 1999. Farm management. Fourth edition. McGraw-Hill, USA<br>Olson, K. 2004. Farm Management. Principles and Strategies. Iowa State Press, USA<br>Orsag, S., Dedi, L. 2011. Budžetiranje kapitala. Procjena investicijskih projekata. Masmedia, Zagreb<br>Par, V. 2012. Menadžment i poduzetništvo u poljoprivredi. Interna skripta. Sveučilište u Zagrebu, Agronomski fakultet, Zagreb<br>Rozman, Č., Turk, J., Pažek, K. 2009. Menedžment v kmetijstvu. Kmetijska založba, Slovenj Gradec<br>Žager, K., Tušek, B., Vašiček, V., Žager, L. 2008. Osnove računovodstva-računovodstvo za neračunovođe. II. izdanje. Hrvatska zajednica računovođa i financijskih djelatnika, Zagreb</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">Quality assurance will be performed at two levels: (1) University Level and (2) Lecturer’s Level.</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
</table>

| NAME OF THE COURSE | LANDSCAPE DESIGN | | | | | |
|---|---|---|---|---|---|---|
| **Code** | MPIH11 | Year of study | 3. | | | |
| Course teacher | Assoc. prof. Boris Dorbić | Credits (ECTS) | 6 | | | |
| Associate teachers | - | Type of instruction (number of hours) | L | S | E | F |
| | | | 20 | 30 | | 30 |
| Status of the course | Izborni | Percentage of application of e-learning | 10 % | | | |

**COURSE DESCRIPTION**

| | |
|---|---|
| Course objectives | The aim of the course is to introduce students to the development and contemporary principles of landscape design, types of landscape areas, especially those in urban environments, as well as the relevant legislation. Based on general knowledge of the location, climate, and expected purpose of the landscape area, the aim is to learn about the optimal use of dendrological species and other materials used in the design of external surfaces. Based on simpler landscape areas, the aim is to explain the structure of the preparation of work quantities as well as the process of preparing a conceptual and main landscape design project, and its application in execution. |
| Course enrolment requirements and entry competences required for the course | The requirements for enrollment are that students have duly fulfilled the prescribed obligations and have been present for at least 70% of the total number of teaching hours (lectures, seminars and fieldwork). Students who do not meet all the requirements for enrollment may re-enroll in the same course in the following academic year. |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | After passing the exam, students will be able to:<br>• Distinguish between styles in landscape design<br>• Define and distinguish between types of landscape areas in an urban environment<br>• Describe the basic legal regulations and types of documentation within the profession of landscape design<br>• Recognize, describe, and be able to apply dendrological species depending on the purpose, depending on the type of landscape area, location, and climate<br>• Analyze and apply the main construction project when designing smaller landscape areas<br>• Create and apply a simpler bill of quantities for a smaller landscape area. |
| Course content broken down in detail by weekly class schedule (syllabus) | Lecture 1 – Introduction to the course – Basic concepts, course content, objectives and student obligations<br>Lecture 2 – Beginning of the application of horticultural species in ancient and medieval gardens with an emphasis on the Mediterranean<br>Lecture 3 – Concept and purpose of landscaping in the Renaissance period with an emphasis on the Dalmatian region<br>Lecture 4 – Basic characteristics of Baroque garden art<br>Lecture 5 – Features of the 18th and 19th century style in garden art<br>Lecture 6 – Types of landscape areas in the 20th century city<br>Lecture 7 – Contemporary principles of landscape area design in the city<br>Lecture 8 – Garden of a single-family detached house in Europe<br>Lecture 9 – Garden of a single-family detached house in the Mediterranean region<br>Lecture 10 – Features of the garden of a single-family detached house in Dalmatia<br><br>Lecture 11 – Selection and application of dendromaterials in Mediterranean habitat conditions in public landscape areas in the urban environment<br>Lecture 12 – Selection and application of dendromaterials in Mediterranean habitat conditions in the garden of a single-family detached house<br>Lecture 14 – Materials and structures in the garden of a single-family detached house<br>Lecture 15 – Legislation and landscape design<br>Lecture 16 – Application of a simple conceptual design for landscaping in the city<br>Lecture 17 – Process of preparing bills of quantities for a simple urban green area<br>Lecture 18 – Application of a simple conceptual design for a garden of a single-family detached house<br>Lecture 19 – Process of preparing bills of quantities for a garden of a single-family detached house<br>Lecture 20 – Construction and maintenance of a garden in a single-family detached house |
| | ☒ lectures | ☒ independent assignments |

| | | |
|---|---|---|
| Format of instruction | ☒ seminars and workshops<br>☐ exercises<br>☐ on line in entirety<br>☐ partial e-learning<br>☒ field work | ☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |
| Student responsibilities | Students are required to attend classes (lectures, seminars and exercises) and actively participate in the teaching process, which will be evaluated in the final assessment by the weight coefficient of 0.1 (10%). | |

| Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course) | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 1.5 | Research | | Practical training | |
| | Experimental work | | Report | | Terenska nastava | 1 |
| | Essay | | Seminar essay | 1 | (Other) | |
| | Tests | | Oral exam | **2.5** | (Other) | |
| | Written exam | | Project | | (Other) | |

| Grading and evaluating student work in class and at the final exam |
|---|
| Aktivnost na nastavi 10%<br>Prisustvovanje terenskoj nastavi 20%<br>Kakvoća izrade seminarskog rada 30%<br>Usmena provjera znanja 40% |

| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
|---|---|---|---|
| | Obad - Šćitaroci,M., Hrvatska parkovna baština, (Zagreb: Školska knjiga, 1999). | 1 | |
| | Aničić, B. Korelacija boravišnih kvaliteta vrtnoga prostora i njegovih strukturnih svojstava. Skripta (Zagreb: Agronomski fakultet, 1997.) | | |
| | Idžojtić, M.: Dendrology: Cones, Flowers, Fruits and Seeds (London, San Diego, Cambridge, Oxford : Elsevier - Academic Press, 2019). | | |
| | Polunin, O., Huxley, A. ,Flowers of the Mediterranean. (London:Chatto & Windus, 2000) | | |
| | Hannenbaum, L., Landscape Design, a Practical Approach, (New Jersey, 1990). | | |
| | | | |

| Optional literature (at the time of submission of study programme proposal) |
|---|
| Šišić, B., Dubrovački renesansni vrt. Nastajanje i oblikovna obilježja (Dubrovnik: Zavod za povijesne znanosti Hrvatske akademije znanosti i umjetnosti u Dubrovniku,1991.)<br>Van Der Zanden, A.M, Landscape design Theory and application (NY: Delmar Cengage Learning, 2007.)<br>Rapopport, A., House form and culture, London, (London: Pearson, 1969) |

| Quality assurance methods that ensure the acquisition of exit competences |
|---|
| Monitoring the fulfillment of students' obligations in the course (teacher).<br>- Student survey on the quality of teaching, which is conducted annually for each subject study. Within the survey, the student's satisfaction with the implementation of the plan is also checked teaching, i.e. teaching (Committee for improving the quality of teaching at study of Mediterranean agriculture).<br>- Exam questions must be in accordance with the learning outcomes. The head of studies is obliged once a year to check a third of the subjects in terms of exam compliance with s learning outcomes. Committee for improving the quality of teaching at the study of Mediterranean agriculture has the right, according to its own assessment, to check alignment of exam questions with learning outcomes |

| Other (as the proposer wishes to add) | |
|---|---|

**Master's Degree Programme Mediterranean Agronomy**

**Course Catalogue**

| **General information** | | |
|---|---|---|
| Lead instructor | Tatjana Klepo, PhD, Assistant Professor | |
| Course name | **Biodiversity of the Mediterranean** | |
| Study programme | **Mediterranean Agronomy** | |
| Course status | Compulsory | |
| Year | 1. | |
| Number of credits and mode of delivery | ECTS student workload coefficient | 5 |
| | Number of hours (L+P+S) | 25 + 20 + 5 |

**Course description**

1.1. Course aims

The aim of the course is to introduce students to the fundamentals of evolution and the components of biodiversity in the Mediterranean region. It covers practical methods for the conservation and sustainable use of plant genetic resources, addresses the issue of genetic erosion, and explores conservation strategies, including the description and assessment of traits, and the importance of gene banks.

1.2. Course enrolment requirements

There is none.

1.3. Intended course learning outcomes

- Explain the principles of evolution.
- Identify the components of biodiversity in the Mediterranean region.
- Understand the strategies for conserving plant genetic resources.
- Learn the methods for assessing the traits of accessions.
- Determine the goals and tasks of gene banks.

1.4. Course content

- Introduction to the course 0.5 L
- Evolution and Adaptation Mechanisms 1.5 L
- Biocenosis and Biological Diversity 1 L, 2 P
- Basic Components of Mediterranean Biodiversity 1 L, 1 S, 1 F
- Protected Areas in the Mediterranean 1 L, 1 F
- Gene Centers of Origin for Cultivated Plant Species 1 L, 1 S
- Economically Important Plant Species by Region 1L, 1 S
- Importance of Biodiversity for Agricultural Development 1 L
- Plant Genetic Resources and Their Role in Plant Breeding 1 L, 1 P
- Reasons for Conserving Plant Genetic Resources 1 L
- Erosion of Plant Genetic Resources 2 L, 1 S
- Description and Assessment of Accession Traits 1 L, 1 P, 1 F
- Analysis of Plant Genetic Diversity at Agronomic, Morphological, and Genetic Levels 2 L, 1 S, 2 P, 2 F
- Inter- and Intraspecific Diversity 1 L, 1 P
- Methods and Techniques for Conserving Plant Genetic Resources 2 L, 1 P, 2 F
- Establishment, Goals, and Tasks of Gene Banks 2 L, 1 P
- Ex situ conservation 1 L, 1 P, 1 T
- In situ conservation 1 L, 1 P, 1 T
- Documentation information system at the national and international level 1 L, 1 P
- Role and tasks of the National Program for the Preservation of Plant Genetic Resources 1 L
- Legislative framework 1 L

| 1.5. Modes of delivery (mark the appropriate boxes with an X) | X lectures | ☐ independent work |
|---|---|---|

| | | |
|---|---|---|
| | ☐ seminars and workshops<br>X practicals<br>☐ remote learning<br>X field work | ☐ multimedia and network<br>☐ laboratory<br>☐ supervision<br>☐ other _____ |
| | | |

1.6. Student obligations

Attend classes (lectures 80%, seminar classes, practics and field classes 100%) and actively participate in the teaching process. The above will be recorded and evaluated when making the final assessment.

1.7. Monitoring student work (mark the appropriate boxes with an X)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Class attendance | X | Participation in class | | Seminar paper | X | Experimental work | |
| Written exam | | Oral exam | X | Essay | | Research | X |
| Project | | Continuous assessment of knowledge | | Student report | | Practical work | X |
| Portfolio | | | | | | | |

1.8. Assessment and evaluation of student work during classes and the final exam

The course material represents one thematic unit that students pass through an written exam at the end of the semester. The exam is considered passed if students achieve at least 60%. Scoring: <60% student did not satisfy; 60-70% sufficient (2); 70-80% good (3); 80-90% very good (4); 90-100% excellent

1.9. Required readings and number of copies relative to the number of students currently taking the course

| Title | Number of copies | Number of students |
|---|---|---|
| Šatović, Z., Grdiša, M., Jeran, N., Varga, F. (2023): Očuvanje biljnih genetskih izvora, Zagreb: 306 str.<br>https://www.agr.unizg.hr/publication/32/O%C4%8Duvanje+biljnih+genetskih+izvora | Available online | 20 |
| Lecture presentations | Available in pdf. | |

1.10. Supplementary readings

Vlada Republike Hrvatske (2021): Nacionalni program očuvanja i održive uporabe biljnih genetskih izvora za hranu i poljoprivredu u Republici Hrvatskoj za razdoblje od 2021. do 2027. godine. Zagreb: 68 str. https://vlada.gov.hr/UserDocsImages/2016/Sjednice/2021/srpanj/71%20sjednica%20VRH/71%20-%2022%20Nacionalni%20program%20o%C4%8Duvanja.DOC (on-line)

The state of the worlds plant genetic resources for food and agriculture: 2nd report of the Worlds plant genetic resources for food and agriculture. (2010). Rome : FAO. https://www.fao.org/4/i1500e/i1500e00.htm (on-line)

1.11. Methods of quality monitoring that ensure the acquisition of knowledge, skills and competences.

Class attendance and class activity.
Prepared and exhibited seminar paper.
Written exam passed.
Individual consultations.
Student self-assessment of achieved learning outcomes.
Student survey on the quality of teaching and teachers at the university level.

| **General information** | | |
|---|---|---|
| Lead instructor | Pavao Gančević, PhD, Assistant Professor | |
| Course name | **Wildlife Animal Species Population** | |
| Study programme | **Mediterranean Agronomy** | |
| Course status | Mandatory | |
| Year | 2. | |
| Number of credits and mode of delivery | ECTS student workload coefficient | 3 |
| | Number of hours (L+P+S) | 20+0+15 |

**Course description**

1. Course aims

The aim of the course is to familiarise the students with the wildlife populations living in the wilderness areas of the Republic of Croatia, focussing on the coastal regions and the islands. Learning about morphological, ecological and biological characteristics of these populations with a focus on hunting species and becoming proficient in managing these populations. Throughout the course, the students will learn about the differences between native and non-native animal species, including possible invasive dangers that some species introduce into new habitats. The students will also observe feral domestic animals, i.e. those abandoned by owners and living freely in the nature. In addition, an important part of the course will be the coexistence between big predators and people.

2. Course enrolment requirements

none

3. Intended course learning outcomes

- Understanding and analising the basic legislation governing wildlife populations in the Republic of Croatia and the European Union.
- Recognising specific species to be managed
- Understanding the essential problems of coexistence between humans and wildlife populations and respective management.
- Acquiring fundamental principles of managing and hunting of wildlife populations
- Understanding the problems of non-native and invasive species among wildlife populations and their identification
- Listing the origins and methods of introduction of non-native and invasive species and understanding possible risks

4. Course content

Lectures

Introduction: Illustration of the historical and present management of wildlife populations. The need for management of wildlife populations and human coexistence with them. Factors affecting wildlife populations. Familiarisation with wildlife populations and big predators living in the wilderness areas of the Republic of Croatia, focussing on coastal areas and the islands. Learning about feral domestic animals and possibilities to manage them under the law. Analysing the hunting species and basic hunting management. Basic morphological, ecological and biological characteristics of hunting species in the Republic of Croatia. The methods of monitoring wildlife populations. Identification of the non-native and invasive species, the reasons for invasion and spread and models for related management. Protective measures to reduce damage from game and big predators. Damage evaluation.

Seminars and workshops include research of basic morphological, ecological and biological characteristics of a specific animal species, including native and non-native.

Field work includes visiting hunting grounds, practicing management of hunting species and monitoring wildlife populations (native and non-native)

| | | |
|---|---|---|
| 5. Modes of delivery (mark the appropriate boxes with an X) | x lectures<br>x seminars and workshops<br>☐ practicals<br>☐ remote learning<br>x field work | ☐ independent work<br>☐ multimedia and network<br>☐ laboratory<br>☐ supervision<br>☐ other _____ |
| | | |

6. Student obligations

Students are required to attend lectures (tutorials and seminars 80%) and actively participate in the learning process, including producing and presenting a seminar paper. The above will be recorded and evaluated as part of their final grades.

7. Monitoring student work (mark the appropriate boxes with an X)

| | | | | | | |
|---|---|---|---|---|---|---|
| Class attendance | x | Participation in class | x | Seminar paper | x | Experimental work |
| Written exam | x | Oral exam | x | Essay | | Research |
| Project | | Continuous assessment of knowledge | x | Student report | | Practical work |
| Portfolio | | | | | | |

8. Assessment and evaluation of student work during classes and the final exam

During the course, the students may take two partial tests. If they fail these partial tests, they will be marked at their written exam (examination period). The grades at partial tests and the written exam are formed as follows: 51-60% satisfactory (2); 61-75% good (3); 76-88% very good 4); 89-100% excellent (5). The collective grade is the compound of all activities (the percentage of success for every activity is multiplied with the weighting coefficient): 10% x presence and active participation at tutorials and seminars (seminar paper) + 45% x achievement at 1st test + 45% x achievement at 2nd test.

9. Required readings and number of copies relative to the number of students currently taking the course

| Title | Number of copies | Number of students |
|---|---|---|
| Mustapić, Z. i sur. (2004). Lovstvo. Zagreb: Lovački savez Hrvatske. | (On-line available) | |
| Janicki, Z. (2007). Zoologija divljači. Zagreb:Sveučilištu Zagrebu,Veterinarski fakultet. | (On-line available) | |
| Frković, Alojzije (1981). Priručnik za ocjenjivanje lovačkih trofeja. Zagreb: Lovački savez Hrvatske. | (On-line available) | |
| Križaj D. (2010): Štete od divljači.HLS, Zagreb | (On-line available) | |

10. Supplementary readings

Andrašić D. (1982): Objekti tehničkog uređenja lovišta i uzgajališta divljači. Liber. Zagreb

Andrašić, D. (1984). Zoologija divljači i lovna tehnologija. Zagreb: Liber.

The Ecology of Invasions by Animals and Plants. Charles S. Elton

Smith, E. L. (1995). Elements of Ecology. New York: Harper and Row.

Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species

The Ecology of Invasions by Animals and Plants. Charles S. Elton

| 11. Methods of quality monitoring that ensure the acquisition of knowledge, skills and competences. |
|---|
| Attendance at lectures and active participation<br>Completion and presentation of seminar paper<br>Passing the written exam<br>Individual consultations<br>Student self-assessment of achievement<br>Student survey of the quality of lectures and lecturer at academic level |

| **General information** | | |
|---|---|---|
| Lead instructor | Mario Bjeliš, PhD, Associate Professor | |
| Course name | **Invasive harmful organisms** | |
| Study programme | **Mediterranean Agronomy** | |
| Course status | Compulsory | |
| Year | 1. | |
| Number of credits and mode of delivery | ECTS student workload coefficient | 5 |
| | Number of hours (25+15+10) | |

| **Course description** |
|---|
| 1.1. Course aims |
| The aim of the course is to acquaint students with invasive harmful organisms of Mediterranean cultures that are present in Europe and Croatia, the risk of introducing harmful organisms, measures and methods of prevention, prevention of spread and suppression, administrative measures and procedures after introduction. |
| 1.2. Course enrolment requirements |
| none |
| 1.3. Intended course learning outcomes |
| • Interpret the legislation related to the regulation of invasive species;<br>• Present the competence system of plant protection organizations in the Republic of Croatia;<br>• Determine the taxonomic affiliation of detected invasive species;<br>• Explain the biology, ecology and conditions for introduction and establishment of invasive species;<br>• Organize and implement preventive detection and early detection measures;<br>• Implement measures and methods to prevent spread and suppression. |
| 1.4. Course content |
| • Introduction to the subject, 1P<br>• European Plant Protection Organization (EPPO), 2P<br>• Regulation on protective measures against organisms harmful to plants (2016/2031), 2P<br>• Jurisdiction of national organizations for plant protection in the Republic of Croatia, 2P<br>• Invasive and specially regulated harmful organisms of Mediterranean fruit crops that are present in the Republic of Croatia, 2P<br>• Taxonomic affiliation of invasive, quarantine and specially regulated species, 3P<br>• Biology and ecology of harmful organisms of Mediterranean fruit crops that are present in the Republic of Croatia, 2P<br>• Programs of special monitoring of harmful organisms in the Republic of Croatia, 2P<br>• Orders and action plans to prevent the spread and suppression of harmful organisms in the Republic of Croatia, 2P |

• Methods of detection and early detection of harmful organisms, 2P
• Examples of the spread of harmful organisms, 2P
• Methods of preventing the spread and suppression, 3P
• Colloquium
• Field teaching, invasive and specially regulated harmful olive organisms, 5T
• Field teaching, invasive and specially regulated harmful organisms of citrus fruits, 5T
• Field teaching, invasive and specially regulated harmful organisms of the grapevine, 5T
• Creation and presentation of seminar papers, 10S

| 1.5. Modes of delivery (mark the appropriate boxes with an X) | x☐ lectures<br>x☐ seminars and workshops<br>☐ practicals<br>☐ remote learning<br>x☐ field work | ☐ independent work<br>☐ multimedia and network<br>☐ laboratory<br>☐ supervision<br>☐ other _____ |
|---|---|---|
| | | |

1.6. Student obligations

• Regular attendance at lectures, active monitoring and participation in discussions. Creation of practical tasks.
• Creating a seminar paper and presenting it to the study group.

1.7. Monitoring student work (mark the appropriate boxes with an X)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Class attendance | | Participation in class | | Seminar paper | X | Experimental work | |
| Written exam | | Oral exam | X | Essay | | Research | X |
| Project | | Continuous assessment of knowledge | | Student report | | Practical work | |
| Portfolio | | Field work | X | Kolokvium | X | | |

1.8. Assessment and evaluation of student work during classes and the final exam

Evaluation of the student's work will be done by evaluating the presentation of the seminar work and active participation in the class. The final grade of the student's work is expressed as the average grade of the grade on the written exam, the oral exam and the grade of the seminar paper.The seminar work will be graded and the grade will be included in the calculation of the final grade after the oral exam. Final grade = seminar paper (20%) + oral exam (80%)

1.9. Required readings and number of copies relative to the number of students currently taking the course

| Title | Number of copies | Number of students |
|---|---|---|
| Zakon o biljnom zdravstvu (N.N. 127/19) https://narodne-novine.nn.hr/clanci/sluzbeni/full/2019_12_127_2552.html | On line | 20 |
| EPPO activities on plant quarantine https://www.eppo.int/ACTIVITIES/quarantine_activities | On line | |
| HAPIH, Centar za zaštitu bilja - Publikacije https://www.hapih.hr/czb/publikacije/ | On line | |
| Uredba (EU) 2016/2031 Europskog parlamenta i vijeća | On line | |

| | | |
|---|---|---|
| https://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:32016R2031&qid=1524207176599&from=EN | | |

| | |
|---|---|
| 1.10. | Supplementary readings |
| 1.11. | Methods of quality monitoring that ensure the acquisition of knowledge, skills and competences. |

Class attendance and class activity.
Prepared and exhibited seminar paper.
Written exam passed.
Individual consultations.
Student self-assessment of achieved learning outcomes.
Student survey on the quality of teaching and teachers at the university level.