Josip Juraj Strossmayer University of Osijek
FACULTY OF AGROBIOTECHNICAL SCIENCES OSIJEK

CURRICULUM

Agriculture (University Undergraduate Study Programme)

Major in **AGRICULTURAL ECONOMICS**

Academic Year 2022-23

June, 2022

List of Teachers and Courses

Academic year 2022 - 23

Agriculture (University Undergraduate Study Programme)

Major in **AGRICULTURAL ECONOMICS**

A full-time Study Programme

Agriculture (University Undergraduate Study Programme), major in AGRICULTURA ECONOMICS
Academic year 2022 - 2023

A List of Teachers and Courses

I. semester

COORDINATOR	COURSE NAME	TEACHERS ON THE COURSE AND TYPE OF CLASSES						ECTS
		NAME AND SURNAME	LECTURES	SEMINARES	EXERCISES			
					FE	AE	LE	
Tihomir Živić	German Language I	Tihomir Živić	30			45		5
Maja Novoselec	English Language I	Maja Novoselec	30			45		5
Vesna Rastija	Chemistry	Vesna Rastija	45					6
		Maja Karnaš				9	6	
		Domagoj Šubarić				9	6	
Maja Petrač	Mathematics	Maja Petrač	45			30		6
Edita Štefanić	General Botany and Zoology	Edita Štefanić	25					6
		Siniša Ozimec	20					
		Sanda Rašić					15	
		Tihomir Florijančić					5	
		Ivica Bošković					5	
Krunoslav Zmaić	Basics of Agricultural Economics	Krunoslav Zmaić	30					6
		Tihana Sudarić	30					
		David Kranjac		15				
		Lucija Bencarić		15				
Krešimir Ižaković	Physical education and sports	Krešimir Ižaković			30			1

II. semester

Agriculture (University Undergraduate Study Programme), major in AGRICULTURA ECONOMICS
Academic year 2022 - 2023

A List of Teachers and Courses

COORDINATOR	COURSE NAME	TEACHERS ON THE COURSE AND TYPE OF CLASSES						ECTS
		NAME AND SURNAME	LECTURES	SEMINARS	EXERCISES			
					FE	AE	LE	
Tihomir Živić	German Language II	Tihomir Živić	30			45		5
Maja Novoselec	English Language II	Maja Novoselec	30			45		
Vesna Gantner	Principles of Animal Breeding	Vesna Gantner	45					6
		Mirna Gavran				30		
Željko Barač	Basics of agricultural techniques	Željko Barač	30					6
		Ivan Plaščak	10					
		Goran Heffer	20					
		Vjekoslav Tadić	15					
Ivana Prakatur	Physiology and Animal Nutrition	Matija Domaćinović	10					6
		Marcela Šperanda	30					
		Mario Ronta				5		
		Ivana Prakatur	30					
Irena Jug	Basics of Soil Science and Crop production	Irena Jug	30					6
		Vesna Vukadinović	15					
		Bojana Brozović	15					
		Danijel Jug	15					
Krešimir Ižaković	Physical education and sports	Krešimir Ižaković			30			1

Agriculture (University Undergraduate Study Programme), major in AGRICULTURA ECONOMICS
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III. semester

COORDINATOR	COURSE NAME	TEACHERS ON THE COURSE AND TYPE OF CLASSES						ECTS
		NAME AND SURNAME	LECTURES	SEMINARES	EXERCISES			
					FE	AE	LE	
Igor Kralik	Basics of Economic Theory	Igor Kralik	50	25				6
Snježana Tolić	Rural Sociology	Snježana Tolić Olgica Klepač	50	 25				6
Tihana Sudarić	Croatian Economy	Tihana Sudarić Krunoslav Zmaić Lucija Bencarić	50 10	 15				6
Ružica Lončarić	Market and Agro-Marketing	Ružica Lončarić Sanja Jelić Milković	50	15 10				5
Ljubica Ranogajec	Costs and calculations in agricultural production	Ljubica Ranogajec Ana Crnčan	60	 15				6
Krešimir Ižaković	Physical education and sports	Krešimir Ižaković			30			1

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A List of Teachers and Courses

IV. semester

COORDINATOR	COURSE NAME	TEACHERS ON THE COURSE AND TYPE OF CLASSES						ECTS
		NAME AND SURNAME	LECTURES	SEMINARES	EXERCISES			
					FE	AE	LE	
Snježana Tolić	Regional and Rural Development	Snježana Tolić Olgica Klepač	60	15				6
Krunoslav Zmaić	Agricultural and Rural Policy	Krunoslav Zmaić David Kranjac Tihana Sudarić	30 20 10	15				6
Jadranka Deže	Agribusiness Management	Jadranka Deže Ljubica Ranogajec Jelena Kristić	40 20	10		5		5
Snježana Tolić	Finance and Financial Business	Snježana Tolić	45	30				6
Renata Baličević	The basics of phytomedicine	Renata Baličević Marija Ravlić	20			15		3
Dražen Horvat	Information and communication technologies in agriculture	Dražen Horvat Andrijana Rebekić	20			20		3
Krešimir Ižaković	Physical education and sports	Krešimir Ižaković			30			1

Agriculture (University Undergraduate Study Programme), major in AGRICULTURA ECONOMICS
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A List of Teachers and Courses

V. semester

COORDINATOR	COURSE NAME	TEACHERS ON THE COURSE AND TYPE OF CLASSES						
		NAME AND SURNAME	LECTURES	SEMINARES	EXERCISES			ECTS
					FE	AE	LE	
Manda Antunović	Plant Production	Manda Antunović Mirta Rastija	40 35					5
Dalida Galović	Animal Husbandry	Dalida Galović	50			25		5
Boris Đurđević	Fertilization	Boris Đurđević Irena Jug	30 10					3
Ljubica Ranogajec	Accounting in agriculture	Ljubica Ranogajec Ana Crnčan	35 25			 15		5
Jelena Kristić	Planning in Agriculture	Jelena Kristić Ana Crnčan	25 20			15 15		6
	FINAL THESIS							6

Agriculture (University Undergraduate Study Programme), major in AGRICULTURA ECONOMICS
Academic year 2022 - 2023

A List of Teachers and Courses

VI. semester

COORDINATOR	COURSE NAME	TEACHERS ON THE COURSE AND TYPE OF CLASSES						
		NAME AND SURNAME	LECTURES	SEMINARES	EXERCISES			ECTS
					FE	AE	LE	
Andrijana Rebekić	Practical work I	Andrijana Rebekić			75			6
	Elective course							6
	Elective course							6
	Elective course							6
	Elective course							6

Agriculture (University Undergraduate Study Programme)

Major in **AGRICULTURAL ECONOMICS**

Academic Year 2022 - 23

ENGLISH LANGUAGE I		
Coordinator	Maja Novoselec	
Collaborators	-	
Study year and semester	First year, 1st semester	
Number of credits and mode of delivery	ECTS credits	5
	Hours (L+E)	75 (30 L + 45 E)
COURSE DESCRIPTION		
Course aims	- Identify and explain key words and sentences in professional and scientific texts. - Equip students to independently use professional literature in their field of specialization at all levels (promotional texts, instructions, online texts, professional books, and manuals), as well as for communication, understanding, and presenting content related to the field of agriculture. - Develop the ability to translate professional texts from English to Croatian and vice versa.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, the student will be able to:

1. Recognize the professional English language of agriculture and describe the difference between specialized and general language in texts.
2. Identify key words and use them to write a concise summary in their own words.
3. Anticipate the content of the text based on selected key words.
4. Identify illustrated grammar structures in selected professional texts and apply them by independently creating and writing a text in their area of interest (plant production, horticulture, animal husbandry, and mechanization).
5. Independently present, comment on, and explain a previously planned topic, and assess whether other students have correctly understood the presentation.
6. Compare and critically evaluate presented topics with reasoned arguments.

Assessment and evaluation of student work during classes

In determining the final grade for students, continuous assessment of class participation (including classroom activity, preparation for class, and reflective review of course content), continuous monitoring and testing of knowledge (two written and one oral partial exams), and the final written and oral exams are taken into account. Taking the partial exams is not mandatory, nor is taking the final exam if the student passes all three partial exams (thus, different grade weightings are applied).
Class attendance is mandatory in accordance with the Regulations on Studies at the University of J.J. Strossmayer in Osijek. If a student miss more than 30% of the class sessions (more than four times), they lose the right to receive a course completion signature.

Obligatory literature

1. Bratulić, Mirna. *Found in Translation: Handbook with Exercises*. Hrvatska sveučilišna naklada, 2010.
2. Gačić, Milica. *Gramatika engleskoga jezika struke*. Školska knjiga, 2009.
3. Murphy, Raymond, i dr. *Basic Grammar in Use Student's Book with Answers and Interactive eBook: Self-study Reference and Practice for Students of American English*. 4. izd., Cambridge UP, 2017.
4. Perković, Anica. *English in Agriculture*. Poljoprivredni fakultet Osijek, 2011.
5. Vujčić, Jasna and Anica Perković. *English for Horticulturists*. Veleučilište u Slavonskome Brodu / Poljoprivredni fakultet Osijek, 2011.

Additional literature

1. Filipović, Rudolf. *Veliki englesko-hrvatski rječnik*. Školska knjiga, 2017.
2. Hlavac, Jim, i dr. *Translating from Croatian into English: A Handbook with Annotated Translations*. Hrvatska sveučilišna naklada, 2019.
3. Matas, Đurđa. *Četverojezični rječnik iz poljoprivrede, šumarstva, veterine i primijenjene biologije: hrvatsko-njemačko-englesko-latinski*. Profil, 1999.
4. Murphy, Raymond. *English Grammar in Use*. 5. izd., e-knjiga, Cambridge UP, 2019.
5. Ritz, Josip. *Hrvatsko-engleski i englesko-hrvatski agronomski rječnik*. Školska knjiga, 1996.

GERMAN LANGUAGE I		
Coordinator	Tihomir Živić	
Collaborators	-	
Study year and semester	First year, 1st semester	
Number of credits and mode of delivery	ECTS credits	5
	Hours (L+E)	75 (30 L + 45 E)
COURSE DESCRIPTION		
Course aims	Development of listening, speaking, reading, and writing skills, as well as the correct use of (grammatical and vocabulary) structures in the German language specific to the agro-biotechnical field.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Conduct an oral discussion based on a read text or a conversation heard in a foreign language.
2. Produce a written summary with a specified word count.
3. Interpret a text.
4. Apply learned words and structures in a new context.
5. Use IT skills to gather information in a foreign language related to a specific topic.
6. Analyze graphical data (tables, graphs, maps, etc.).
7. Write an essay or create a presentation on a related topic.

Assessment and evaluation of student work during classes

The right to take the final oral exam is granted by achieving a minimum number of grade points. Grade points are earned by attending at least 70% of classes (i.e., lectures and auditory exercises), participating actively in class, and obtaining scores from partial written exams. During the semester, students take two partial written exams (in the 7th and 15th weeks of classes). The final exam is mandatory, and a passing grade on the final exam is a prerequisite for a final positive course grade.
Class attendance is mandatory in accordance with the Regulations on Studies at the University of J.J. Strossmayer in Osijek. If a student miss more than 30% of the class sessions (more than four times), they lose the right to receive a course completion signature.

Obligatory literature

1. Ertl, Josef, i dr. Tausend Fragen für den jungen Landwirt. 16. izd., Verlag Eugen Ulmer, 1996.
2. Glovacki-Bernardi, Zrinka. Gramatika njemačkog jezika—osnove. Školska knjiga, 2017.
3. Haensch, Günther, i Gisela Haberkamp de Anton. Wörterbuch der Landwirtschaft. Verlag Eugen Ulmer, 1996.
4. Kljaić, Jasenka. Hrvatsko-njemački praktični rječnik. Školska knjiga, 2017.
5. ———. Njemačko-hrvatski praktični rječnik. Školska knjiga, 1998.
6. Leitner, Hans. Njemačko-hrvatski rječnik glagola u kontekstu. Školska knjiga, 1998.
7. Marčetić, Tamara. Njemački za odrasle. Školska knjiga, 1997.
8. Matas, Đurđa. Četverojezični rječnik hrvatsko-njemačko-englesko-latinski: oko 60.000 leksičkih jedinica iz poljoprivrede, šumarstva, veterine, primijenjene biologije. Profil International, 1999.

Additional literature

1. Bašić, Zlatko. Veliki hrvatsko-njemački rječnik gospodarskog, pravnog, političkog i svakodnevnog stručnog nazivlja. Bašić, 2000.
2. Marčetić, Tamara. Njemački u komunikaciji. Školska knjiga, 2005.
3. Matas, Đurđa. Zoološki rječnik hrvatsko-njemačko-englesko-latinski. Školska knjiga, 2009.

CHEMISTRY		
Coordinator	Vesna Rastija	
Collaborators	Maja Karnaš Domagoj Šubarić	
Study year and semester	First year, 1st semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L+E)	75 (45 L + 30 E)
COURSE DESCRIPTION		
Course aims	Introducing students to the fundamentals of general, inorganic, and organic chemistry, chemical calculations, and practical work in the chemistry laboratory.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Distinguish between types of substances.
2. Relate the electron structure of atoms to the chemical and physical properties of elements.
3. Illustrate the formation and geometry of chemical bonds.
4. Explain chemical equilibrium and energy changes in chemical reactions.
5. Demonstrate fundamental electron and proton transfer reactions.
6. Assess the acid-base properties of chemical compounds.
7. Describe the structure, reactivity, and properties of key inorganic compounds important in agronomy.
8. Differentiate the structures, properties, and reactivity of basic types of organic compounds.
9. Solve basic stoichiometric problems.
10. Apply principles of safe laboratory practices in performing basic techniques of qualitative and quantitative chemical analysis.

Assessment and evaluation of student work during classes

The right to take the final exam is granted by accumulating a minimum number of grade points. Grade points are earned based on class attendance (at least 70%), participation in class, and scores from partial exams. During the semester, students take five partial exams (two from exercises in the 6th and 13th weeks of classes and three from lectures in the 8th, 11th, and 15th weeks of classes). The final exam is mandatory, and a passing grade on the final exam is a prerequisite for a positive final course grade. The final exam is oral.

Obligatory literature

1. Rastija, V. (2022): Odabrana predavanja iz opće i anorganske kemije, Fakultet agrobiotehničkih znanosti Osijek
2. Amić, D. (2008): Organska kemija za studente agronomske struke, Školska knjiga, Zagreb
3. Rastija, V. (2016): Zbirka zadataka iz kemije, Fakultet agrobiotehničkih znanosti Osijek
4. Rastija, V., Karnaš, M. (2020): Uvod u kemijsku analizu, priručnik za laboratorijske vježbe. Fakultet agrobiotehničkih znanosti Osijek

Additional literature

1. Filipović, I.Lipanović, S. (1995): Opća i anorganska kemija I. i II. dio, Školska knjiga, Zagreb
2. Sikirica, M. (2001): Stehiometrija, Školska knjiga, Zagreb.

MATHEMATICS		
Coordinator	Maja Petrač	
Collaborators	-	
Study year and semester	First year, 1st semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L+E)	75 (45 L + 30 E)
COURSE DESCRIPTION		
Course aims	Introduce students to fundamental knowledge of functions and methods of differential and integral calculus. Lectures will cover basic concepts and illustrate their applications. In exercises, students will master the necessary techniques and develop the skills to solve specific problems.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Apply knowledge of functions to specific professional problems.
2. Explain the concept of a string and the concept of string convergence. Distinguish between certain special strings.
3. Explain the concepts of a function's limit and continuity, and apply this knowledge to practical problems.
4. Apply differential calculus to specific problems (tangent and normal lines, monotonicity, local extrema, convexity, inflection points).
5. Interpret the concept and properties of definite and indefinite integrals, as well as improper integrals.
6. Apply new knowledge to specific problems, such as calculating the arc length of a curve, the area of a pseudo-trapezoid, the volume of a solid of revolution, etc.
7. Distinguish between types of differential equations and their solutions, and apply this knowledge to specific problems in the field.

Assessment and evaluation of student work during classes

The right to take the final exam is granted by accumulating a minimum number of grade points. Grade points are earned based on class attendance (at least 70%), participation in class, submitting assignments on Merlin (the e-learning system), and partial exams. During the semester, students take two partial exams. The final exam is mandatory and consists of a written and/or oral part, and a passing grade on the final exam is a prerequisite for a positive final grade.

Obligatory literature

1. D. Jukić, R. Scitovski, Matematika I, Prehrambeno tehnološki fakultet, Odjel za matematiku, Osijek 2000.
2. B. P. Demidović, Zadaci i riješeni primjeri iz više matematike s primjenom na tehničke nauke, Tehnička knjiga, Zagreb, 1986.

Additional literature

1. M. Crnjac, D. Jukić, R. Scitovski, Matematika, Osijek, 1994.
2. J. Pečarić et al., Matematika za tehnološke fakultete, Zagreb, 1994.
3. S. Kurepa, Matematička analiza 1 i 2, Tehnička knjiga, Zagreb, 1972.
4. V. Devide et al., Riješeni zadaci iz više matematike, Školska knjiga, Zagreb, 1979.

GENERAL BOTANY AND ZOOLOGY		
Coordinator	Edita Štefanić	
Collaborators	Tihomir Florijančić Siniša Ozimec Ivica Bošković Sanda Rašić	
Study year and semester	First year, 1st semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L+E)	75 (45 L + 30 E)
COURSE DESCRIPTION		
Course aims	Introduce the student to fundamental knowledge about the structure of cells and the functions of tissues and plant organs (vegetative and generative). Familiarize and equip the student to independently interpret the structural and functional characteristics of members of the animal kingdom, with an emphasis on the structure, function, and ecology of animal organisms.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Describe the chemical basis of the plant cell (biogenic elements and chemical compounds in the plant cell).
2. Investigate, identify, and describe the structure of the plant cell.
3. Explain and analyze the cell cycle (mitosis and meiosis).
4. Differentiate and analyze plant tissues and organs.
5. Explain plant reproduction and distribution.
6. List the characteristics and structure of animal organisms.
7. Use scientific nomenclature in zoological taxonomy.
8. Link evolutionary processes and relatedness among groups within the animal kingdom.
9. Differentiate structural and functional specifics between groups in the animal kingdom.
10. Identify animal species and groups that are beneficial or harmful to agriculture.

Assessment and evaluation of student work during classes

The right to take the final exam is granted by accumulating a minimum number of grade points. Grade points are earned based on class attendance (at least 70%), participation in class, and scores from partial exams. During the semester, students take two partial exams (in the 9th and 15th weeks of classes). The final exam is mandatory, and a passing grade on the final exam is a prerequisite for a positive final grade. The final exam is written.

Obligatory literature

1. Bačić, T. (2003): Morfologija i anatomija bilja. Sveučilište J.J. Strossmayera u Osijeku, Pedagoški fakultet.
2. Denffer, D., Ziegler, H. (1988): Botanika, morfologija i fiziologija. Školska knjiga, Zagreb
3. Dubravec, K. (1996): Botanika. Agronomski fakultet Sveučilišta u Zagrebu.
4. Štefanić, E. (2005): Priručnik za vježbe iz agrobotanike. Sveučilište J.J. Strossmayera u Osijeku, Poljoprivredni fakultet.
5. Treer, T., Tucak, Z. (2004): Agrarna zoologija, II. dopunjeno izdanje. Školska knjiga, Zagreb.
6. Habdija, I., Primc Habdija, B., Radanović, I., Špoljar, M., Matoničkin Kepčija, R., Vujčić Karlo, S., Miliša, M., Ostojić, A., Sertić Perić, M. (2011): Protista – Protozoa i Metazoa – Invertebrata strukture i funkcije. Alfa d.d., Zagreb.
7. Bogut, I., Grbavac, J., Križek, I. (2013): Morfofiziologija probavnog sustava domaćih životinja i riba. Poljoprivredni fakultet, Osijek, Agronomski i prehrambeno-tehnološki fakultet, Mostar.

Additional literature

1. Lepeduš, H., Cesar, V. (2010): Onove biljne histologije i anatomije vegetativnih organa. Odjel za biologiju, Sveučilište J.J. Strossmayer u Osijeku
2. Matoničkin, I., Klobučar, G., Kučinić, M. (2010): Opća zoologija. Školska knjiga, Zagreb
3. Burnie, D. (2014): Životinje, velika ilustrirana enciklopedija, 3. izdanje. Mozaik knjiga, Zagreb

BASICS OF AGRICULTURAL ECONOMICS		
Coordinator	Krunoslav Zmaić	
Collaborators	Tihana Sudarić David Kranjac	
Study year and semester	First year, 1st semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L+S)	75 (60 L + 15 S)
COURSE DESCRIPTION		
Course aims	Introduce students to the impact of economic laws on the behavior of economic phenomena through social reproduction and the role of agriculture in overall economic development.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Explain the significance and functions of agriculture in economic development.
2. Interpret the specific characteristics of agriculture and the principles governing production, distribution, exchange, and consumption.
3. Compare total, average, and marginal relationships in the production function.
4. Relate production isoquants and isocost curves, as well as the marginal rate of technical substitution, perfect substitutes, and complementary factors.
5. Calculate economic performance indicators.
6. Propose and compare selected thematic units from different areas of agricultural economics.

Assessment and evaluation of student work during classes

The right to take the final exam is granted by accumulating a minimum number of grade points. Grade points are earned based on class attendance (at least 70%), participation in class, assignments during lectures and seminars, seminar evaluation, and scores from partial exams. During the semester, students are required to complete an independent seminar paper. Students present their seminar paper orally, lasting 10 to 15 minutes, with a PowerPoint presentation. The presentation schedule will be arranged in advance. Additionally, students take two partial exams (in the 7th and 15th weeks of classes). The final exam is mandatory, and a passing grade on the final exam is a prerequisite for a positive final grade. The final exam is written or oral.

Obligatory literature

1. Zmaić, K. (2008): Osnove agroekonomike, Poljoprivredni fakultet u Osijeku. Osijek.
2. Baban Lj. (1999): Ogledi iz agrarne ekonomije. Ekonomski fakultet u Osijeku. Osijek.
3. Karić, M., Štefanić I. (1999): Troškovi i kalkulacije. Ekonomski fakultet u Osijeku. Osijek.

Additional literature

1. Gail L. Cramer and Clarence W. Jensen (1982): Agricultural Economics & Agribusiness. Second edition. Montana State University. New York.
2. 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. Zagreb: Sveučilište u Zagrebu, Agronomski fakultet
3. Žaja, M. (1991): Ekonomika proizvodnje, Školska knjiga, Zagreb

PHYSICAL EDUCATION AND SPORTS		
Coordinator	Krešimir Ižaković	
Collaborators	-	
Study year and semester	First year, I. semester	
Number of credits and mode of delivery	ECTS credits	1
	Number of hours (L+E+S)	30 (30E)
COURSE DESCRIPTION		
Course aims	The aim of Physical and Health Education is to train students to implement theoretical and motor skills that enable independent physical exercise for an improved quality of life.	
Course enrolment requirements		
Intended course learning outcomes		
After successfully completing the module, the student will be able to: 1. Independently perform physical exercises for an improved quality of life.		
Assessment and evaluation of student work during classes		
Attendance in classes, active participation during the teaching process, and participation in practical exercises with a minimum attendance of at least 70% of the total hours grants the right to receive positive descriptive grade.		
Obligatory literature		
Additional literature		

ENGLISH LANGUAGE II		
Coordinator	Maja Novoselec	
Collaborators	-	
Study year and semester	First year, 2nd semester	
Number of credits and mode of delivery	ECTS	5
	Hours (L+E)	75 (30 L + 45 E)
COURSE DESCRIPTION		
Course aims	Enhance and expand the specialized vocabulary and grammatical structures acquired in the first semester to cover new areas of interest. Independently compose summaries of presented topics. Analyze, translate, discuss, and draw conclusions on content related to students' field of study, based on personal perspectives.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Use the skills (listening, comprehension, reading, and writing) acquired in the first semester to select, translate, and interpret topics of professional interest.
2. Identify and compare professional and scientific papers, translating them from English to Croatian and vice versa.
3. Reconstruct sentence structures in summaries of professional and scientific papers.
4. Represent professional and scientific texts with diagrams and justify their use in English.
5. Select important current topics in the field and critically evaluate them.
6. Design, propose, and independently write a paper on a specific topic.

Assessment and evaluation of student work during classes

The final grade for students is based on continuous monitoring of class participation (class activity, preparation for class, and reflective review of course content), ongoing assessment and knowledge testing (two written and one oral partial exams), as well as a final written and oral exam. Attendance at partial exams is not mandatory, nor is the final exam if the student passes all three partial exams (hence the varied weighting in grading).

Class attendance is mandatory in accordance with the Study Regulations of the University of J.J. Strossmayer in Osijek. If a student is absent for more than 30% of classes (more than four times), he loses the right to attend a final exam.

Obligatory literature

1. Bratulić, Mirna. Found in Translation: Handbook with Exercises. Hrvatska sveučilišna naklada, 2010.
2. Gačić, Milica. Gramatika engleskoga jezika struke. Školska knjiga, 2009.
3. Murphy, Raymond, i dr. Basic Grammar in Use Student's Book with Answers and Interactive eBook: Self-study Reference and Practice for Students of American English. 4. izd., Cambridge UP, 2017.
4. Perković, Anica. English in Agriculture. Poljoprivredni fakultet Osijek, 2011.
5. Vujčić, Jasna and Anica Perković. English for Horticulturists. Veleučilište u Slavonskome Brodu / Poljoprivredni fakultet Osijek, 2011.

Additional literature

1. Filipović, Rudolf. Veliki englesko-hrvatski rječnik. Školska knjiga, 2017.
2. Hlavac, Jim et al. Translating from Croatian into English: A Handbook with Annotated Translations. Hrvatska sveučilišna naklada, 2019.
3. Matas, Đurđa. Četverojezični rječnik iz poljoprivrede, šumarstva, veterine i primijenjene biologije: hrvatsko-njemačko-englesko-latinski. Profil, 1999.

GERMAN LANGUAGE II		
Coordinator	Tihomir Živić	
Collaborators	-	
Study year and semester	First year, 2nd semester	
Number of credits and mode of delivery	ECTS credits	5
	Hours (L+E)	75 (30 L + 45 E)
COURSE DESCRIPTION		
Course aims	Development of listening, speaking, reading, and writing skills, as well as the correct use of grammatical and vocabulary structures in the German language for the agrotechnical field.	
Course enrolment requirements	No prerequisites	
Intended course learning outcomes		
Upon successfully completing the module, students will be able to: 1. Conduct an oral discussion based on a read text or a listened conversation in a foreign language. 2. Write a summary with a specified word count. 3. Interpret a text. 4. Apply acquired vocabulary and structures in a new context. 5. Use digital skills to gather information on a specific topic in a foreign language. 6. Analyze graphical data (tables, graphs, maps, etc.). 7. Write an essay or create a presentation on a related topic.		
Assessment and evaluation of student work during classes		
The right to take the final oral exam is earned by accumulating a minimum number of points. Points are obtained by attending at least 70% of classes (lectures and auditory exercises), active participation in class, and scores from partial written exams. During the semester, students take two partial written exams (in the 7th and 15th week of the semester). The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a final positive course grade.		
Obligatory literature		
1. Ertl, Josef et al. Tausend Fragen für den jungen Landwirt. 16. izd., Verlag Eugen Ulmer, 1996. 2. Glovacki-Bernardi, Zrinka. Gramatika njemačkog jezika—osnove. Školska knjiga, 2017. 3. Haensch, Günther, i Gisela Haberkamp de Anton. Wörterbuch der Landwirtschaft. Verlag Eugen Ulmer, 1996. 4. Kljaić, Jasenka. Hrvatsko-njemački praktični rječnik. Školska knjiga, 2017. 5. ———. Njemačko-hrvatski praktični rječnik. Školska knjiga, 1998. 6. Leitner, Hans. Njemačko-hrvatski rječnik glagola u kontekstu. Školska knjiga, 1998. 7. Marčetić, Tamara. Njemački za odrasle. Školska knjiga, 1997. 8. Matas, Đurđa. Četverojezični rječnik hrvatsko-njemačko-englesko-latinski: oko 60.000 leksičkih jedinica iz poljoprivrede, šumarstva, veterine, primijenjene biologije. Profil International, 1999.		
Additional literature		
1. Bašić, Zlatko. Veliki hrvatsko-njemački rječnik gospodarskog, pravnog, političkog i svakodnevnog stručnog nazivlja. Bašić, 2000. 2. Marčetić, Tamara. Njemački u komunikaciji. Školska knjiga, 2005. 3. Matas, Đurđa. Zoološki rječnik hrvatsko-njemačko-englesko-latinski. Školska knjiga, 2009.		

PRINCIPLES OF ANIMAL BREEDING		
Coordinator	Vesna Gantner	
Collaborators	Mirna Gavran.	
Study year and semester	First year, 2nd semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L+E)	75 (45 L + 30 E)
COURSE DESCRIPTION		
Course aims	The goal is to introduce undergraduate students to the basics of domestic animal breeding, which include the origin of domestic animals and breeds, the causes and importance of hereditary and non-hereditary variability of general and productive traits, in order to understand breeding and selection methods.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Explain the importance and role of livestock farming as an agricultural and scientific discipline.
2. Describe the domestication process and the concept of domestic animals.
3. Identify the concept of breed, phenotype, and genotype.
4. Differentiate between the causes of hereditary and non-hereditary variability of domestic animal traits.
5. Explain the importance of fertility, as well as growth and development capacity from both a biological and economic perspective.
6. Apply basic statistical methods to describe variability and the relationships of quantitative traits.
7. Differentiate between general and productive traits of domestic animals.
8. Describe methods of breeding domestic animals.
9. Distinguish between the general principles of breeding programs.

Assessment and evaluation of student work during classes

Attendance at lectures and exercises, as well as active participation in class are required. During the semester, two partial written exams will be held (theory + tasks). At the first lecture, the student will be introduced to the course content (list of topics), the schedule for partial exams, and the list of mandatory and recommended literature. The partial exam results will be recognized during the final exam. Only students who have attended at least 70% of the lectures and exercises are eligible to take the partial and final written exams.

Method of Forming the Final Grade: In forming the final grade, continuous monitoring of attendance (activity in class, preparation for the topics), continuous checking of knowledge (partial exams), and the final exam are taken into account. Attendance at partial exams is not mandatory, while attending the final exam is mandatory.

Obligatory literature

1. Kralik, Gordana; Adámek, Zdeněk; Baban, Mirjana; Bogut, Ivan; Gantner, Vesna; Ivanković, Stanko; Katavić, Ivan; Kralik, Davor; Kralik, Igor; Margeta, Vladimir; Pavličević, Jerko. (2011) Zootehnika. Poljoprivredni fakultet u Osijeku, Sveučilište Josipa Jurja Strossmayera u Osijeku. Osijek: Grafika Osijek. Sveučilišni udžbenik. ISBN: 978 – 953 – 6331 – 95 – 6
2. Gantner, Vesna; Barać Zdravko. (2014) Uzgojno-selekcijski rad u stočarstvu. Poljoprivredni fakultet u Osijeku, Sveučilište Josipa Jurja Strossmayera u Osijeku. Sveučilišni udžbenik. ISBN: 978 – 953 – 7871 – 35 – 2
3. Gantner, Vesna; Steiner, Zvonimir; Gregić Maja (2021) Principles of Animal Breeding and Feeding. Josip Juraj Strossmayer University of Osijek, Faculty of Agrobiotechnical Sciences Osijek. Sveučilišni udžbenik. ISBN: 978 – 953 – 7871 – 97 – 0

Additional literature

1. Brinzej et al. (1991) Stočarstvo - poglavlje 1. Sveučilišni udžbenik. Školska knjiga. Zagreb
2. Jovanovac, S. (2013) Principi uzgoja životinja. Sveučilišni udžbenik, Osijek, 2013.

Recent scientific and professional papers from the field of animal production, selection and breeding of domestic animals.

BASICS OF AGRICULTURAL TECHNIQUES		
Coordinator	Željko Barač	
Collaborators	Ivan Plaščak Goran Heffer Vjekoslav Tadić	
Study year and semester	First year, 2nd semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L)	75 (75 L)
COURSE DESCRIPTION		
Course aims	Familiarize students with the basic concepts from the field of mechanical engineering and their application in agricultural technology: mechanics, machine components, agricultural tractors, and maintenance. Furthermore, introduce machines and devices, their designs, assemblies, operating principles, adjustments, and applications in agricultural production.	
Course enrolment requirements	No prerequisites	
Intended course learning outcomes		
Upon successfully completing the module, students will be able to: 1. State the principles and fundamental knowledge from the field of natural and technical sciences, applicable in agricultural engineering. 2. Describe the working principles of diesel engine tractors (ICE). 3. Compare the technical characteristics of individual ICE engines. 4. Categorize tractors according to different criteria. 5. Describe the working principles of various tractor components. 6. List the methods and procedures for maintaining agricultural machinery. 7. Select machinery suitable for agricultural production.		
Assessment and evaluation of student work during classes		
The right to take the final exam is obtained by accumulating a minimum number of grade points. Grade points are earned through class attendance (minimum 70%), active participation in class, and grades from partial exams. During the semester, students take three partial exams (in the 7th, 10th, and 15th weeks of classes). The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive final grade. The final exam is oral.		
Obligatory literature		
1. Vujčić, M., Emert, R., Jurić, T., Heffer, G., Baličević, P., Pandurović, T., Plaščak, I. (2011): Osnove poljoprivrednog strojarstva, Sveučilišni udžbenik, Sveučilište J.J.Strossmayera, Poljoprivredni fakultet, Osijek 2. Emert, R., Jurić, T., Štefanek, E., Filipović, D. (1995): Održavanje traktora i poljoprivrednih strojeva, Sveučilišni udžbenik, Sveučilište J.J.Strossmayera, Poljoprivredni fakultet, Osijek 3. Zimmer, R., Košutić, S., Zimmer, D. (2009): Poljoprivredna tehnika u ratarstvu, Sveučilišni udžbenik, Sveučilište J.J.Strossmayera, Poljoprivredni fakultet, Osijek 4. Banaj, Đ., Šmrčković, P. (2003): Upravljanje poljoprivrednom tehnikom, Sveučilišni udžbenik, Sveučilište J.J.Strossmayera, Poljoprivredni fakultet, Osijek		
Additional literature		
1. CIGR (1999): Hahdbook of Agricultural Engineering, Vol. I-V, ASAE, St. Joseph, Michigan		

PHYSIOLOGY AND ANIMAL NUTRITION		
Coordinator	Ivana Prakatur	
Collaborators	Matija Domaćinović Marcela Šperanda Mario Ronta	
Study year and semester	First year, 2nd semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L + E)	75 (70 L + 5 E)
COURSE DESCRIPTION		
Course aims	Familiarizing students with the chemical composition and physiological function of nutrients in the bodies of domestic animals. Introducing the nutritional composition and practical application of feed in animal diets. Training students to calculate the energy value of feed. Familiarizing students with the morphology and physiology of the digestive system of domestic animals. Studying the functions of individual digestive organs.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Classify nutrients and list important representatives, describing their physiological role in the body of domestic animals.
2. Explain the calculation of the energy value of feed using modern energy units.
3. Define feed and classify it according to the type and concentration of nutrients, origin, and water content.
4. Identify individual fresh and conserved forages, as well as concentrates and feed mixtures, and explain their role in the diets of different species and categories of animals.
5. Distinguish between the four basic types of animal tissues and interpret their functional significance within the digestive system organs.
6. List the organs of the digestive system and explain the structure and function of organs, glands, and digestive juices.
7. Explain the physiological processes involved in food digestion.
8. Link the influence of neuroendocrine regulation on the function of the digestive system.

Assessment and evaluation of student work during classes

The right to take the final exam is earned by collecting a minimum number of grade points. Grade points are earned based on attending classes, participation in class, and grades from partial exams. During the semester, students take four partial exams. The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive final grade. The final exam is oral.

Obligatory literature

1. Senčić, Đ., Antunović, Z., Novoselec, J., Samac, D., Prakatur, I., Bobić, T., Kli, Ž. (2021): Tehnologija animalne proizvodnje. Sveučilište J. J. Strossmayera u Osijeku, Fakultet agrobiotehničkih znanosti Osijek.
2. Domaćinović M. (2006): Hranidba domaćih životinja, Poljoprivredni fakultet Osijek.
3. Domaćinović M. (1999): Praktikum vježbi hranidbe domaćih životinja. Poljoprivredni fakultet u Osijeku.
4. Sjaastad O. V., Sand O., Hove K., (2017): Fiziologija domaćih životinja. Naklada Slap. (Ur. hrvatskog izdanja: Suzana Milinković Tur, Miljenko Šimpraga)

Additional literature

1. Domaćinović, M., Z. Antunović, E. Džomba, A. Opačak, M. Baban, S. Mužic (2015): Specijalna hranidba domaćih životinja.Poljoprivredni fakultet u Osijeku.
2. Šperanda M. (2008): Anatomija i fiziologija domaćih životinja. Web skripta, Poljoprivredni fakultet u Osijeku
3. Stilinović Z. (1993): Fiziologija probave i resorpcije u domaćih životinja. Školska knjiga, Zagreb

BASICS OF SOIL SCIENCE AND CROP PRODUCTION		
Coordinator	Irena Jug	
Collaborators	Danijel Jug Vesna Vukadinović Bojana Brozović	
Study year and semester	First year, 2nd semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L)	75 (75 L)
COURSE DESCRIPTION		
Course aims	To introduce the applicants to the basics of soil science and the principles of plant production.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Explain the roles of soil and the influence of its physical, chemical, and biological properties on its productive capacity and fertility.
2. Describe and differentiate the properties of dominant soil types.
3. Describe the role and importance of plant nutrients.
4. Explain fertilization and the classification of fertilizers based on origin, composition, application time, type of nutrient, aggregate state, and mode of action.
5. Describe soil conditioners and substrates for plant production.
6. Plan the sequence of agronomic operations in plant production.
7. Explain and apply basic principles (tillage, fertilization, humus management, and crop residues) for implementing good agricultural practices.
8. Explain the importance of biological reproduction, crop care, crop rotation, monoculture, and consociation, and distinguish between conventional agricultural production and alternative methods.

Assessment and evaluation of student work during classes

The right to take the final exam is earned by collecting a minimum number of points. Points are earned based on attendance (at least 70%), class participation, and the grades from partial exams. During the semester, students take three partial exams (in the 5th, 9th, 12th, and 15th weeks of classes). The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive final grade. The final exam is oral.

Obligatory literature

1. Jug I., Jug D., Brozović B., Vukadinović V., Đurđević B. (2022): Osnove tloznanstva i biljne proizvodnje. Sveučilišni udžbenik. Sveučilište Josipa Jurja Strossmayera u Osijeku, Fakultet agrobiotehničkih znanosti Osijek (FAZOS), Osijek, Hrvatska, str. 527. ISBN: 978-953-8421-00-6.
2. Jug D., Birkás M., Kisić I. (2015): Obrada tla u agroekološkim okvirima. Sveučilišni udžbenik. Hrvatsko društvo za proučavanje obrade tala (HDPOT), Osijek, Hrvatska, str. 275. ISBN: 978-953-7871-48-2.
3. Vukadinović, V., Vukadinović, V. (2011): Ishrana bilja. Poljoprivredni fakultet Osijek

Additional literature

1. Jug D., Jug I., Vukadinović V., Đurđević B., Stipešević B., Brozović B. (2017): Konzervacijska obrada tla kao mjera ublažavanja klimatskih promjena. Sveučilišni priručnik. Hrvatsko društvo za proučavanje obrade tala (HDPOT), Osijek, Hrvatska, str. 176. ISBN: 978-953-7871-61-1.
2. Bašić, F., Herceg, N. (2010): Temelji uzgoja bilja. Synopsis, Zagreb.

PHYSICAL EDUCATION AND SPORTS		
Coordinator	Krešimir Ižaković	
Collaborators	-	
Study year and semester	First year, II. semester	
Number of credits and mode of delivery	ECTS credits	1
	Number of hours (L+E+S)	30 (30E)
COURSE DESCRIPTION		
Course aims	The aim of Physical and Health Education is to train students to implement theoretical and motor skills that enable independent physical exercise for an improved quality of life.	
Course enrolment requirements		
Intended course learning outcomes		
After successfully completing the module, the student will be able to: 1. Independently perform physical exercises for an improved quality of life.		
Assessment and evaluation of student work during classes		
Attendance in classes, active participation during the teaching process, and participation in practical exercises with a minimum attendance of at least 70% of the total hours grants the right to receive positive descriptive grade.		
Obligatory literature		
Additional literature		

BASICS OF ECONOMIC THEORY		
Coordinator	Igor Kralik	
Collaborators	-	
Study year and semester	Second year, 3rd semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L + S)	75 (50 L + 25 S)
COURSE DESCRIPTION		
Course aims	To provide fundamental knowledge of economic theory as an introduction to more detailed study of economics courses throughout the program.	
Course enrolment requirements	No prerequisites	
Intended course learning outcomes		
Upon successfully completing the module, students will be able to: 1. Explain the development of economic thought over the centuries (centralized, decentralized, and mixed resource allocation). 2. Interpret the law of supply and demand, including non-price determinants of supply and demand. 3. Explain price, income, and cross elasticity of demand, as well as price elasticity of supply. 4. Interpret the significance and role of marginal utility theory. 5. Apply the First and Second Gossen's Laws, defining total utility and marginal utility per monetary unit. 6. Apply the theory of indifference curves and derive the budget line formula. 7. Differentiate between various market structures (monopoly, oligopoly, perfect competition, and monopolistic competition). 8. Define and explain types of business enterprises. 9. Interpret and illustrate equilibrium in the market for production factors.		
Assessment and evaluation of student work during classes		
Eligibility to take the final exam is achieved by accumulating a minimum number of grade points. Grade points are earned through class attendance (minimum 70%), active participation, and partial exam scores. During the semester, students take two partial exams (in the 7th and 15th weeks of classes). The final exam is mandatory, and a passing grade on the final exam is a prerequisite for a positive final course grade. The final exam is oral.		
Obligatory literature		
1. Ferenčak, I. (1998): Počela ekonomike, Sveučilište J.J. Strosmayera Osijek, Osijek (udžbenik) 2. Sammuelson, P.A,Nordhaus, W. (1992): Ekonomija, „MATE“, Zagreb (knjiga)		
Additional literature		
1. Heilbroner, R, L., Thurow, L., C. (1995): Ekonomija za svakog, „MATE“, Zagreb (knjiga) 2. Koutsoyiannis, A. (1996): Moderna mikroekonomija, „MATE“, Zagreb (knjiga) 3. Blanchard, O. (2011): Makroekonomija, „MATE“, Zagreb (knjiga)		

RURAL SOCIOLOGY		
Coordinator	Snježana Tolić	
Collaborators	Olgica Klepač	
Study year and semester	Second year, 3rd semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L + S)	75 (50 L + 25 S)
COURSE DESCRIPTION		
Course aims	Introduce students to fundamental social phenomena and their implications for the development of rural society, the historical evolution of rural-urban relations, and the progression of society from agrarian to modern states to foster an understanding of sociocultural changes in contemporary rural societies and communities. Students acquire competencies in interpreting social and ecological phenomena within rural communities.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Explain the historical development of specific organizational forms, social conditions, and relationships that have shaped peasant societies from early agrarian states to modern industrial states.
2. Identify contemporary issues faced by rural communities and rural areas.
3. Consider the importance of rural-urban connections and the role of preserved rural areas in post-industrial society.
4. Relate social mobility between rural and urban areas to changes in the socio-economic structure of the rural population.
5. Define the social and ecological dimensions of societal development.
6. Interpret the phenomenon of globalization.

Assessment and evaluation of student work during classes

Eligibility to take the final exam is achieved by accumulating a minimum number of grade points. Grade points are earned through class attendance (minimum 70%), participation in class activities, and scores from partial exams. During the semester, students take two partial exams (in the 7th and 15th weeks of classes). The final exam is mandatory, and a passing grade on the final exam is a prerequisite for a positive final course grade. The final exam is oral.

Obligatory literature

1. Haralambos, M. (2002.): Sociologija - teme i perspektive, Golden marketing - Tehnička knjiga, Zagreb
2. Ritzer, G. (1997.) Suvremena sociologijska teorija. Globus, Zagreb
3. Ivan Cifrić (2003): Ruralni razvoj i modernizacija. Prilozi istraživanju ruralnog identiteta, Zagreb
4. Woods, M. (2020). Ruralna geografija: Procesi, odgovori i iskustva ruralnog restrukturiranja. Agronomski fakultet Zagreb
5. Lukić, A. (2010). O teorijskim pristupima ruralnom prostoru. Hrvatski geografski glasnik 72/2, 49 – 75 https://hrcak.srce.hr/file/97306
6. Štambuk, M., Rogić, I., Mišetić, A. (ur.) (2002): Prostor iza. Kako modernizacija mijenja hrvatsko selo. Institut društvenih znanosti Ivo Pilar, Zagreb
7. Šundalić, A. (2010). Selo – iz autentičnosti u neprepoznatljivost, Osijek, Sveučilište J. J. Strossmayera
8. Cejudo, E., Navarro, F. (ur.) (2020). Neoendogenous Development in European Rural Areas. Results and Lessons. Springer

Additional literature

1. Štambuk, M., Rogić, I., Mišetić, A. (2002): Prostor iza. Institut društvenih znanosti Ivo Pilar, Zagreb
2. Mendras, H. (1986) Seljačka društva, Zagreb, Globus
3. Bićanić, R. (1996) Kako živi narod. Zagreb: Globus i Pravni fakultet u Zagrebu.
4. Puljiz, V. (2002) Oblici i posljedice deagrarizacije u našem selu. Sociologija sela 40: 3/4 (157/158): 367-385
5. Cifrić, I. (1999) Globalizacija i ruralni razvoj. Sociologija sela, 37, 4(146):387-405 https://hrcak.srce.hr/file/177433
6. Šundalić, A. (2013) Ekološka, socijalna i tržišna dimenzija rada u poljoprivredi. U: Razvoj i okoliš – perspektive održivosti. FF press, Zagreb

CROATIAN ECONOMY		
Coordinator	Tihana Sudarić	
Collaborators	Krunoslav Zmaić Lucija Bencarić	
Study year and semester	Second year, 3rd semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L + S)	75 (60 L + 15 S)
COURSE DESCRIPTION		
Course aims	Introduce students to the basic objectives of economic development through various dimensions, such as the utilization of national resources in relation to population growth, global issues of national resource protection, market trends, and production and intervention in the protection of national resources.	
Course enrolment requirements	No prerequisites	
Intended course learning outcomes		
Upon successfully completing the module, students will be able to: 1. Recognize and comment on macroeconomic indicators in the economy. 2. Name and describe the components of economic policy. 3. Recognize and describe the significance of population and economic development. 4. Understand the characteristics of industry as an economic activity. 5. Interpret the importance and role of agriculture in the national economy. 6. Identify the development of different forms of tourism. 7. Distinguish the characteristics of regional development.		
Assessment and evaluation of student work during classes		
The right to take the final exam is earned by collecting a minimum number of points. Points are awarded based on class attendance (at least 70%), active participation in class, and grades from partial exams and seminars. During the semester, students will take two partial exams. The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive final grade. Students present their seminar papers orally, lasting between 10 to 15 minutes, using a PowerPoint presentation.		
Obligatory literature		
1. Crkvenac, M. (1998): Ekonomska politika. Informator. Zagreb 2. Družić, I. (2003): Hrvatsko gospodarstvo. Ekonomski fakultet u Zagrebu, Zagreb The latest scientific and professional papers published in reference international journals will be used for the preparation of the seminar.		
Additional literature		
1. Markandya, A., Richardson, J. (1992): Environmental Economics. Earthscan Publications. Ltd. London 2. Hall, R.E., Taylor, J.B. (1986): Macroeconomic Teory. Performance and Policy. W.W. Nort of Company. New York		

MARKET AND AGRO-MARKETING		
Coordinator	Ružica Lončarić	
Collaborators	Sanja Jelić Milković	
Study year and semester	Second year, 3rd semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L + S)	75 (50 L + 25 S)
COURSE DESCRIPTION		
Course aims	Introducing students to the basic principles and functioning of markets in various forms of economic activity, with a particular focus on the market for agricultural and food products.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Define and explain the laws and factors of the market.
2. Analyze and assess possible market situations and the impact of marketing.
3. Identify specific market factors and marketing activities.

Assessment and evaluation of student work during classes

The right to take the final exam is achieved by collecting a minimum number of points. Points are earned based on class attendance, participation in class activities, tasks during lectures and seminars, seminar evaluations, and partial exam grades. During the semester, students prepare an independent seminar paper, which is mandatory. Additionally, students take two partial exams during the course. The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive final grade. The final exam can be either written or oral.

Obligatory literature

1. Koester, U. (2020): Foundations of Agricultural Market Analysis and Agricultural Policy. Verlag Franz Vahlen GmbH; München.
2. Baban, Lj. (1991): Tržište. 2 dopunjeno i izmjenjeno izdanje, ŠK; Zagreb.
3. Ivić, K. (1999): Izabrana bibliografi ja iz agroekonomije. Efos, Osijek.
4. Kolega, A. (1994): Tržišništvo poljoprivrednih proizvoda. Globus, Zagreb.

Additional literature

1. Meler, M. (2005): Osnove marketinga. Efos, Osijek.
2. Kotler, Ph. (2001): Upravljanje marketingom. Informator, Mate, Zagreb.

The latest scientific and professional papers published in reference international journals will be used for the preparation of the seminar.

COSTS AND CALCULATIONS IN AGRICULTURAL PRODUCTION		
Coordinator	Ljubica Ranogajec	
Collaborators	Ana Crnčan	
Study year and semester	Second year, 3rd semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L + E)	75 (60 L + 15 E)
COURSE DESCRIPTION		
Course aims	To familiarize students with the factors of production, types of costs, and methods used in agro-economic cost analysis, with the aim of maintaining favorable relationships between crop and livestock production factors, ensuring efficient labor processes, and achieving economically viable and profitable agricultural production.	
Course enrolment requirements	No prerequisites	
Intended course learning outcomes		
Upon successfully completing the module, students will be able to: 1. Identify the factors of agricultural production and explain the characteristics of fixed and working assets. 2. Name and explain the costs of working tools, materials, labor, depreciation, and interest. 3. Illustrate the movement of fixed, variable, and total costs. 4. Calculate the maintenance costs and the optimal lifespan of agricultural machinery. 5. Create a cost calculation and analyze labor productivity, efficiency, and production profitability. 6. Explain the concept, content, and process of the annual financial statement, with a focus on business planning and performance analysis.		
Assessment and evaluation of student work during classes		
The right to take the final exam is earned by collecting a minimum number of points. Points are awarded based on attending classes (at least 70%), active participation in classes, and grades from partial exams. During the semester, students take two partial exams (in the 7th and 15th week of classes). The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive overall grade. The final exam is oral.		
Obligatory literature		
1. Ivanković, M. (2007): Troškovi i izračuni u poljodjelstvu, Agronomski fakultet Mostar, Mostar 2. Karić, M. (2002): Kalkulacije u poljoprivredi, Poljoprivredni fakultet u Osijeku, Osijek 3. Karić, M. (2005): Mikroekonomika, Ekonomski fakultet u Osijeku, Osijek 4. Katalog kalkulacija https://www.savjetodavna.hr/product/katalog-kalkulacija-poljoprivredne-proizvodnje-za-2021-godinu/		
Additional literature		
1. Karić, M. (2003): Ekonomika poduzeća, Ekonomski fakultet u Osijeku, Osijek 2. Santini, I. (2002): Troškovi u poslovnom odlučivanju, HIBIS, Zagreb 3. Ranogajec, Lj. (2009): Računovodstvo u poljoprivredi, Poljoprivredni fakultet u Osijeku, Osijek 4. Internet cjenik sjemena, sadnog materijala, mineralnih gnojiva, pesticida, goriva i ulja, hrane za stoku		

PHYSICAL EDUCATION AND SPORTS		
Coordinator	Krešimir Ižaković	
Collaborators	-	
Study year and semester	Second year, III. semester	
Number of credits and mode of delivery	ECTS credits	1
	Number of hours (L+E+S)	30 (30E)
COURSE DESCRIPTION		
Course aims	The aim of Physical and Health Education is to train students to implement theoretical and motor skills that enable independent physical exercise for an improved quality of life.	
Course enrolment requirements		
Intended course learning outcomes		
After successfully completing the module, the student will be able to: 1. Independently perform physical exercises for an improved quality of life.		
Assessment and evaluation of student work during classes		
Attendance in classes, active participation during the teaching process, and participation in practical exercises with a minimum attendance of at least 70% of the total hours grants the right to receive positive descriptive grade.		
Obligatory literature		
Additional literature		

REGIONAL AND RURAL DEVELOPMENT		
Coordinator	Snježana Tolić	
Collaborators	Olgica Klepač	
Study year and semester	Second year, 4th semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L + S)	75 (60 L + 15 S)
COURSE DESCRIPTION		
Course aims	To provide students with essential knowledge about the regional development of the Republic of Croatia	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Define the basic concepts in regional and rural development.
2. List the various criteria for territorial division into micro and macro regions.
3. Define the European Union's regional policy, list the principles, and describe the priorities and objectives.
4. Differentiate European regions and describe forms of Euro-regional cooperation.
5. Analyze the fundamental premises of rural development.
6. Describe the priorities and objectives of European rural policy.
7. List the measures of the European Union's Rural Development Program 2014-2020.
8. Analyze the basic principles of the LEADER program.
9. Explain the role of local action groups in rural development programming and the implementation of development policies.
10. Explain the meaning and importance of intersectoral and transnational cooperation for rural development.

Assessment and evaluation of student work during classes

When forming the final grade, regular class attendance, the preparation and presentation of the seminar paper, as well as knowledge verification through partial exams and the final exam, are taken into account. According to the Regulations on Studies at the University of J. J. Strossmayer in Osijek, class attendance is mandatory. If a student miss more than 30% of the classes, they lose the right to attend a final exam.

Obligatory literature

1. Baletić, Z. (1999) Koncepcija regionalnog razvitka Republike Hrvatske, Ekonomski institut, Zagreb
2. Bogunović, A. (2001) Ekonomske integracije i regionalna politika, Mikrorad Zagreb
3. Budak, J. (2004) Local government and development in Croatia: are we lost in transition?, Ekonomski pregled, 55(7/8):660-673Copus, A. & Hörnström, L. (eds.) The New Rural Europe: Towards Rural Cohesion Policy. NORDREGIO REPORT 2011, Nordregio, Stockholm, Sweden, 2011
4. Čavrak, V. (2002) Strategija i politika regionalnog razvoja Hrvatske, Ekonomija, 9(3):645-661
5. Tolić, S. i grupa autora (2013): Ruralni razvoj i ruralna ekonomija. Priručnik, I izdanje. Osijek, 2013.
6. LEADER program Europske unije i njegova funkcija u ruralnom razvoju http://www.vesta.ba/files/brosura_leader.pdf
7. MP (2013). Program ruralnog razvoja 2014.-2020. http://www.mps.hr/ipard/default.aspx?id=129

Additional literature

1. Strategija 2020. Strategija za pametan, održiv i uključiv rast. Bruxelless, 2010, http://www.mingo.hr/public/documents/eu_hr.pdf
2. MRRFEU: Strategija regionalnog razvoja Republike Hrvatske
3. Zakon o regionalnom razvoju (stari i novi)
4. Program ruralnog razvoja europske unije 2014.-2020.
5. EC: Regional policy - Inforegio (http://ec.europa.eu/regional_policy/index_en.cfm)
6. Policy: Challenges and Opportunities within the European Context. -in: Agriculture in Mediterranean 7. Europe: Between Old and New Paradigms Ortiz-Miranda, D., Moragues-Faus, A., Arnalte-Alegre, E. (ed.) Emerald Group Publishing Limited, pp. 233-261
7. Institut za razvoj poduzetništva i europske projekte – IRPEU: Europski projekti http://www.eu-projekti.info/tag/eufondovi

AGRICULTURAL AND RURAL POLICY		
Coordinator	Krunoslav Zmaić	
Collaborators	Tihana Sudarić David Kranjac	
Study year and semester	Second year, 4th semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L + S)	75 (60 L + 15 S)
COURSE DESCRIPTION		
Course aims	Introduce students to the central economic problems of agriculture and enable an understanding of the basic actions of agrarian-political actors at all levels through the application of modern tools, instruments, and measures of agricultural policy, with a particular focus on practical skills and knowledge in current international relations in agriculture.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Identify and explain the basic economic laws in creating measures of agrarian and rural policy in different economic systems.
2. Describe the key events in the history of Croatian and European agricultural policy.
3. Differentiate and assess the conditions for agricultural activity.
4. List and explain the basic elements of agricultural policy.
5. Identify the key socio-economic advantages and disadvantages in creating agrarian-political programs and institutional frameworks.
6. Evaluate and critically discuss the results and effectiveness of agrarian-political measures through current laws.
7. Independently and/or as part of a team, create and present a reasoned proposal for an agrarian-political program at the local and national levels.

Assessment and evaluation of student work during classes

The right to take the final exam is earned by collecting a minimum number of points. Points are awarded based on attendance (minimum 70%), active participation in class, tasks completed during lectures and seminars, seminar grades, and the grades from partial exams. During the semester, students must prepare an independent seminar paper, which is mandatory. The seminar paper is presented orally for 10 to 15 minutes using a PowerPoint presentation. The schedule for presentations will be agreed upon in advance. Additionally, students take two partial exams (in the 7th and 15th weeks of the semester). The final exam is mandatory, and a passing grade on the final exam is a prerequisite for a positive final grade. The final exam can be either written or oral.

Obligatory literature

1. Petrač, B. (2002): Agroekonomika, Ekonomski fakultet u Osijeku, Osijek
2. Baban Lj. (1999): Ogledi iz agrarne ekonomije, Ekonomski fakultet u Osijeku, Osijek
3. Franić, Ramona, Kumrić, Ornella (2008.-2009.): Agrarna i ruralna politika II. Ispitni materijali. Studij: Agrobiznis i ruralni razvitak. Zagreb: Sveučilište u Zagrebu, Agronomski fakultet. Dostupno na: http://www.agr.unizg.hr/cro/nastava/moduli/doc/26578_predavanja.pdf

Additional literature

1. Franić, Ramona, Mikuš, Ornella, Grgić, I. (2012). Poljoprivredna politika u radovima hrvatskih autora 20. stoljeća. Društvena istraživanja 21 (2012), br. 4(118) 989-1006. Zagreb, Institut Ivo Pilar.
2. Tracy M. (2000): Hrana i poljoprivreda u tržnom gospodarstvu, uvod u teoriju, praksu i politiku (prijevod: T. Žimbrek). MATE d.o.o., Zagreb
3. Zakon o poljoprivredi,
4. Strteški plan ZPP-a 2023.-2027.
5. Zakon o poljoprivrednom zemljištu

AGRIBUSINESS MANAGEMENT		
Coordinator	Jadranka Deže	
Collaborators	Ljubica Ranogajec Jelena Kristić	
Study year and semester	Second year, 4th semester	
Number of credits and mode of delivery	ECTS credits	5
	Hours (L + S + E)	75 (60 L + 10 S + 5 E)
COURSE DESCRIPTION		
Course aims	To familiarize students with the forms of agricultural enterprises, the construction of organizational structures, equipping with basic tools and acquiring raw materials, as well as acquiring managerial knowledge and skills for successfully organizing crop and livestock production.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Explain the concept of agribusiness management and its division into types and subtypes, name the types and subtypes, define the concepts of micro and macro management, and differentiate between managing a farm and management in agribusiness.
2. Define the concept of organization, forms of business according to the Companies Act and family farms, their business functions and organizational structure.
3. Identify the factors of agricultural production and examine their relationships.
4. Calculate the optimal level of investment intensity in accordance with market price conditions.
5. Explain production technology, understand breeding periods, and their production indicators.
6. Perform a cost analysis of production, recognizing types and groups.
7. Calculate the break-even point and the critical point of business minimum.
8. Understand how to achieve management effectiveness in agribusiness.

Assessment and evaluation of student work during classes

The right to take the final exam is earned by accumulating a minimum number of grade points. Grade points are earned based on attending classes (minimum 70%), participation in class, and grades from partial exams. During the semester, students take two partial exams (in the 7th and 15th week of classes). The final exam is mandatory, and a passing grade on the final exam is a prerequisite for a positive final grade. The final exam is written.

Obligatory literature

1. Deže, J. et al. (2008): Agroekonomika, Sveučilišni priručnik, Poljoprivredni fakultet Osijek, OBŽ, Osijek. https://www.obz.hr/hr/pdf/poljoprivredni_info_pult/2010/Agroekonomika.pdf
2. Domaćinović, M. et al. (2008): Proizvodnja mlijeka, Sveučilišni priručnik, Poljoprivredni fakultet Osijek, OBŽ, Osijek. https://www.yumpu.com/xx/document/read/48228072/proizvodnja-mesa-pdf-16-mb-osjeako-baranjska-a-3-4-upanija
3. Kralik, G. et al. (2008): Peradarstvo, Poljoprivredni fakultet u Osijeku, Osijek
4. Karić, M. (2002): Ekonomika poduzeća. Ekonomski fakultet u Osijeku, Osijek
5. Sikavica, P. (2011): Organizacija, Školska knjiga, Zagreb
6. Zakon o trgovačkim društvima https://www.zakon.hr/z/546/Zakon-o-trgova%C4%8Dkim-dru%C5%A1tvima
7. Zakon o obiteljskom poljoprivrednom gospodarstvu, https://www.zakon.hr/z/1015/Zakon-o-obiteljskom-poljoprivrednom-gospodarstvu
8. Zakon o poljoprivrednom zemljištu, https://www.zakon.hr/z/133/Zakon-o-poljoprivrednom-zemlji%C5%A1tu
9. Katalog kalkulacija, https://www.savjetodavna.hr/product/katalog-kalkulacija-poljoprivredne-proizvodnje-za-2021-godinu/
10. Nacionalni projekt navodnjavanja i gospodarenja poljoprivrednim zemljištem i vodama u Republici Hrvatskoj, https://vlada.gov.hr/UserDocsImages//2016/Sjednice/Arhiva//121-1.pdf

Additional literature

1. Beierlein J.G., Schneeberger K.C., Osborn D.D (1986): Principles of Agribusiness Management, Prentice Hall, New Jersy

2. Cirkveni Filipović, T. i sur. (2021): Obiteljska poljoprivredna gospodarstva, Biblioteka računovodstvo, Zagreb

FINANCE AND FINANCIAL BUSINESS		
Coordinator	Snježana Tolić	
Collaborators	-	
Study year and semester	Second year, 4th semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L + S)	75 (45 L + 30 S)
COURSE DESCRIPTION		
Course aims	The aim of the module is to introduce students to the fundamental principles and concepts of finance, focusing on the management of financial resources in business environments. Students will gain an understanding of financial markets, instruments, and strategies used by businesses to maximize profitability and sustainability. The module aims to equip students with the practical skills and analytical tools needed to evaluate financial performance and make informed financial decisions.	
Course enrolment requirements	No prerequisites	
Intended course learning outcomes		
Upon successfully completing the module, students will be able to: 1. Transform a business idea into a fully developed business plan. 2. Understand the impact of financing structure on business financial performance. 3. Assess the financial impact of an entrepreneurial venture. 4. Position oneself according to the VAT system. 5. Formulate business problems in mathematical/financial terms and solve them. 6. Evaluate the impact of macroeconomic factors on business operations.		
Assessment and evaluation of student work during classes		
The right to take the final exam is earned by collecting a minimum number of points. Points are earned based on attendance (at least 70%), class participation, and grades from partial exams. During the semester, students take two partial exams (in the 7th and 15th weeks of the course). The final exam is mandatory, and a positive grade in the final exam is a prerequisite for a positive final grade. The final exam is oral.		
Obligatory literature		
1. Štefanić, I. (2015): Inovativno poduzetništvo - priručnik za studente, inovativne poduzetnike i poduzetne znanstvenike. Osjiek: Sveučilište Josipa Jurja Strossmayera u Osijeku, 2015. 2. Cirkveni Filipović, T. (ur) (2022): Obiteljska poljoprivredna gospodarstva – Računovodstvo, porezi, trgovina, usluge I fiskalizacija. II izijenjeno I dopunjeno izdanje. Biblioteka Računovodstvo, Zagreb, 2022.		
Additional literature		
1. I-DARE, aplikacija za online pisanje poslovnih planova s uputama, http://i-dare.net/ 2. Bujan I. (2014): Poslovne financije. Međimursko veleučilište u Čakovcu		

THE BASICS OF PHYTOMEDICINE		
Coordinator	Renata Baličević	
Collaborators	Marija Ravlić	
Study year and semester	Second year, 4th semester	
Number of credits and mode of delivery	ECTS credits	3
	Hours (L + E)	35 (20 L + 15 E)
COURSE DESCRIPTION		
Course aims	The aim is to introduce students to the fundamentals of phytomedicine and measures for plant protection against harmful organisms.	
Course enrolment requirements	No prerequisites	
Intended course learning outcomes		
Upon successfully completing the module, students will be able to: 1. Identify the objectives of proper application of plant protection products based on the current requirements of producers, processors, and consumers, in compliance with legal frameworks. 2. Differentiate harmful organisms and apply appropriate protective measures. 3. Understand the mechanisms of action of plant protection products. 4. Carry out the correct application of plant protection products while preventing environmental contamination. 5. Discuss, argue, and critically evaluate a given topic in plant protection.		
Assessment and evaluation of student work during classes		
The right to take the final exam is earned by collecting a minimum number of assessment points. Assessment points are earned based on class attendance (minimum 70%), participation in class activities, and grades from partial exams. During the semester, students take two partial exams. The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive final grade. The final exam is oral.		
Obligatory literature		
1. Bokulić i sur. (2015): Priručnik za sigurno rukovanje i primjenu sredstava za zaštitu bilja. Ministarstvo poljoprivrede, Zagreb. 2. Ravlić, M. (2017): Zbirka zadataka iz fitofarmacije. Sveučilište J. J. Strossmayera, Poljoprivredni fakultet u Osijeku. 3. F. Bagi, K., Bodnar (2012): Fitomedicina, Univerzitet u Novom Sadu, Poljoprivredni fakultet.		
Additional literature		
1. Glasilo biljne zaštite: Popis sredstava za zaštitu bilja u Republici Hrvatskoj; 2. Znanstveni i stručni radovi iz relevantnih časopisa i baza.		

INFORMATION AND COMMUNICATION TECHNOLOGIES IN AGRICULTURE		
Coordinator	Dražen Horvat	
Collaborators	Andrijana Rebekić	
Study year and semester	Second year, 4th semester	
Number of credits and mode of delivery	ECTS credits	3
	Hours (L + E)	40 (20 L + 20 E)
COURSE DESCRIPTION		
Course aims	The aim of the module is to familiarize students with techniques in using computers and information-communication technologies (ICT) in business applications and agro-economic research. Through a series of real-life examples and independent tasks, students will gain a fundamental understanding of the potential applications of modern ICT technologies.	
Course enrolment requirements	No prerequisites	
Intended course learning outcomes		
Upon successfully completing the module, students will be able to: 1. Practically apply various forms of mobile communications and network protocols in e-business. 2. Utilize different versions of network business applications and programs in modern office and out-of-office operations, including marketing. 3. Use the Windows platform through web interfaces and the CARNet Moodle 2 system for online learning. 4. Effectively conduct market surveys and present business results at various conferences. 5. Create and edit business documents and spreadsheets. 6. Recognize and use the numerous capabilities of relational databases. 7. Create and organize personal and business planners.		
Assessment and evaluation of student work during classes		
The right to take the final exam is earned by collecting a minimum number of points. Points are obtained through class attendance (minimum 70%), active participation, and grades from partial exams. During the semester, students take two partial exams. The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive final grade. The final exam is oral.		
Obligatory literature		
1. http://e-knjiznica.carnet.hr/e-knjige/e-citizen 2. htt p://e-knjiznica.carnet.hr/e-knjige/racunalo 3. http://e-knjiznica.carnet.hr/e-knjige/windows7 4. http://e-knjiznica.carnet.hr/e-knjige/wlan		
Additional literature		
1. Vukadinović, V., Horvat, D., Lončarić, Z. (1994): Primjena računala u poljoprivredi. Poljoprivredni fakultet u Osijeku. 2. Grbavac V. (1995): Informatika, kompjutori i primjena, Udžbenici Sveučilišta u Zagrebu, Zagreb. 3. Strugar, I., Panian, Ž. (2000): Primjena računala u poslovnoj praksi. Sinergija d.o.o. Zagreb.		

PHYSICAL EDUCATION AND SPORTS		
Coordinator	Krešimir Ižaković	
Collaborators	-	
Study year and semester	Second year, IV. semester	
Number of credits and mode of delivery	ECTS credits	1
	Number of hours (L+E+S)	30 (30E)
COURSE DESCRIPTION		
Course aims	The aim of Physical and Health Education is to train students to implement theoretical and motor skills that enable independent physical exercise for an improved quality of life.	
Course enrolment requirements		
Intended course learning outcomes		
After successfully completing the module, the student will be able to: 1. Independently perform physical exercises for an improved quality of life.		
Assessment and evaluation of student work during classes		
Attendance in classes, active participation during the teaching process, and participation in practical exercises with a minimum attendance of at least 70% of the total hours grants the right to receive positive descriptive grade.		
Obligatory literature		
Additional literature		

PLANT PRODUCTION		
Coordinator	Manda Antunović	
Collaborators	Mirta Rastija	
Study year and semester	Third year, 5th semester	
Number of credits and mode of delivery	ECTS credits	5
	Hours (L)	75 (75 L)
COURSE DESCRIPTION		
Course aims	The aim is to familiarize students with the objectives of cultivation and the agrotechnics of producing the most important cereal and industrial crops in the Republic of Croatia (wheat, corn, barley, sugar beet, sunflower, soybean, oilseed rape).	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Describe the significance and define the goals of production and the use of cereal and industrial crop products in everyday consumption, including human food, animal feed, the pharmaceutical industry, and more recently for energy production.
2. Argue the economic importance, compare the origin, and describe the morphological structure of the most common field crops in Croatia (wheat, corn, barley, sugar beet, sunflower, soybean, and oilseed rape).
3. Analyze yields in the Republic of Croatia and compare them with results in Europe and worldwide.
4. Describe and explain the impact of weather conditions and soil quality on the yield and quality of industrial crops.
5. Describe the technology for producing cereals and industrial crops, the harvesting process, and explain the conditions and methods for delivering the harvest to the buyer.
6. Argue the legal regulations (if applicable to certain crops) for the cultivation and sale of the harvest.
7. Analyze available information on official websites with the aim of finding useful production-related information (Ministry of Agriculture, Narodne novine, etc.).

Assessment and evaluation of student work during classes

The right to take the final exam is earned by collecting a minimum number of grade points. Grade points are earned through attendance (minimum 70%), active participation in class, and scores from partial exams. During the semester, students take four partial exams. The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive final grade. The final exam is oral.

Obligatory literature

1. Kovačević, V. i Rastija, M. (2014): Žitarice. Sveučilište J. J. Strossmayera u Osijeku, Poljoprivredni fakultet u Osijeku
2. Pospišil, A. (2010): Ratarstvo - I dio. Zrinski d.d., Čakovec.
3. Pospišil, M. (2013): Ratarstvo II dio - industrijsko bilje. Zrinski d.d., Čakovec.

Additional literature

1. Vratarić, M. et al. (2004): Suncokret. Poljoprivredni institut Osijek.
2. Vratarić, M. and Sudarić, A. (2008): Soja. Poljoprivredni institut Osijek.

ANIMAL HUSBANDRY		
Coordinator	Dalida Galović	
Collaborators	-	
Study year and semester	Third year, 5th semester	
Number of credits and mode of delivery	ECTS credits	5
	Hours (L + E)	75 (50 L + 25 E)
COURSE DESCRIPTION		
Course aims	The aim of this module is to familiarize students with the importance of animal husbandry and the biologically and economically significant traits of domestic animals. It focuses on explaining the technological processes of production in cattle farming, pig farming, poultry farming, sheep farming, and goat farming, as well as the importance of animal reproduction in these sectors.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Explain the economic significance of cattle farming, pig farming, poultry farming, sheep farming, and goat farming.
2. Distinguish the main characteristics of the digestive systems of ruminants and non-ruminants.
3. Identify the most important breeds of domestic animals.
4. List the breeding systems for cattle, pigs, poultry, sheep, and goats.
5. Explain the technological processes in meat, milk, and egg production.
6. List and define the production indicators in meat, milk, and egg production.
7. Identify signs of estrus and explain the importance of reproduction in domestic animals.

Assessment and evaluation of student work during classes

The right to take the final exam is earned by collecting a minimum number of grading points. Assessment points are earned based on attendance (at least 70%), participation in class, and scores from partial exams. During the semester, students will take three partial exams. The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive final grade. The final exam is oral.

Obligatory literature

1. Kralik, G., Adamek, Z., Baban, M., Bogut, I., Ivanković, S., Katavić, I., Kralik, D., Margeta, V., Pavličević, J.: Zootehnika. Sveučilište J.J. Strossmayera u Osijeku, Poljoprivredni fakultet u Osijeku, 2011.
2. Uremović, Z., Uremović, P., Pavić, V., Mioč, B., Mužic, S., Janječić, Z.: Stočarstvo. Agronomski fakultet Sveučilišta u Zagrebu. (2002).
3. Uremović, Z., Uremović, P., Pavić, V., Mioč, B., Mužic, S., Janječić, Z. (2002): Stočarstvo. Agronomski fakultet Sveučilišta u Zagrebu.

Additional literature

1. Kralik, G. Kušec, G., Kralik, D., Margeta, V.: Svinjogojstvo, Sveučilište Josipa Jurja Strossmayera u Osijeku, Poljoprivredni fakulktet u Osijeku, Osijek, 2007.
2. Kralik, G., Has-Schon, E., Kralik, D., Šperanda, M.: Peradarstvo, Sveučilište Josipa Jurja Strossmayera u Osijeku, Poljoprivredni fakulktet u Osijeku, Osijek, 2008.
3. Senčić, Đ.: Tehnologija peradarske proizvodnje, Sveučilište Josipa Jurja Strossmayera u Osijeku, Poljoprovredni Fakultet u Osijeku, Osijek, 2011.
4. Mioč, B. (2002): Kozarstvo u Stočarstvu, urednik Zvonimir Uremović, Agronomski fakultet, Zagreb
5. Uremović, Z. (2004): Govedarstvo, Hrvatska mljekarska udruga, Zagreb.
6. Mioč, B., Pavić, V., Sušić, V. (2007): Ovčarstvo, Hrvatska mljekarska udruga, Zagreb.

FERTILIZATION		
Coordinator	Boris Đurđević	
Collaborators	Irena Jug	
Study year and semester	Third year, 5th semester	
Number of credits and mode of delivery	ECTS credits	3
	Hours (L)	40 (40 L)
COURSE DESCRIPTION		
Course aims	Compare and define different types of fertilizers and soil conditioners. Compare modern methods of determining fertilization needs, along with independent selection of fertilizers and conditioners. Analyze in detail the results of fertilization recommendations for arable, horticultural crops, and permanent plantations, in order to enable students to apply economically profitable and ecologically sustainable practices in agricultural production.	
Course enrolment requirements	No prerequisites	
Intended course learning outcomes		
Upon successfully completing the module, students will be able to: 1. Explain the historical development of fertilization in Europe. 2. Explain and compare different organic fertilizers (manure, slurry, peat, compost, green manures). 3. Explain and compare the technological processes of production, physical and chemical properties of different mineral fertilizers (nitrogen, phosphorus, potassium fertilizers, compound fertilizers, micro-fertilizers, liquid fertilizers). 4. Describe soil conditioners and explain the processes of soil conditioning. 5. Compare modern methods of determining fertilization needs, along with independent selection of fertilizers and soil conditioners. 6. Analyze the results of fertilization recommendations for arable crops, vegetables, and permanent plantations, and select optimal formulations and quantities of fertilizers for these crops.		
Assessment and evaluation of student work during classes		
The right to take the final exam is earned by collecting a minimum number of assessment points. Assessment points are earned based on attendance (at least 70%), participation in class, and scores from partial exams. During the semester, students will take two partial exams. The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive final grade. The final exam is oral.		
Obligatory literature		
1. Vukadinović, V., Bertić, B. (2013): Filozofija gnojidbe – Sve što treba znati o gnojidbi, udžbenik. Autorska naklada, Osijek.		
Additional literature		
1. Vukadinović, V. (Internet): Kalkulatori. http://ishranabilja.com.hr/kalkulatori.html 2. Vukadinović, V., Vukadinović, V. (2011): Ishrana bilja, udžbenik. Poljoprivredni fakultet u Osijeku. Osijek		

ACCOUNTING IN AGRICULTURE		
Coordinator	Ljubica Ranogajec	
Collaborators	Ana Crnčan	
Study year and semester	Third year, 5th semester	
Number of credits and mode of delivery	ECTS credits	5
	Hours (L + S)	75 (60 L + 15 S)
COURSE DESCRIPTION		
Course aims	Explain the accounting sources and procedures for preparing information for management, specifically for planning, control, and decision-making.	
Course enrolment requirements	No prerequisites	

Intended course learning outcomes

Upon successfully completing the module, students will be able to:

1. Explain the concept of accounting and describe its division (financial, cost, and management accounting) and structure (bookkeeping, accounting planning, accounting supervision, accounting analysis, and accounting reporting).
2. Describe the basics of bookkeeping and its tasks.
3. Distinguish the fundamental accounting categories (assets, liabilities, equity, revenues, and expenses).
4. Interpret the basic financial statements (balance sheet, income statement, cash flow statement, statement of changes in equity, notes to the financial statements).
5. Calculate financial performance indicators for a company.
6. Describe the specifics of accounting in agriculture.

Assessment and evaluation of student work during classes

The right to take the final exam is earned by accumulating a minimum number of assessment points. These points are obtained based on class attendance (at least 70%), participation in class activities, and grades from partial exams. During the semester, students take two partial exams (in the 7th and 15th week of the course). The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive overall grade. The final exam is oral.

Obligatory literature

1. Cirkveni Filipović, T. I sur. (2021): Obiteljska poljoprivredna gospodarstva, Biblioteka računovodstvo, Zagreb
2. Karić, M. (2002): Kalkulacije u poljoprivredi, Poljoprivredni fakultet u Osijeku, Osijek
3. Ranogajec, Lj. (2009): Računovodstvo u poljoprivredi, Poljoprivredni fakultet u Osijeku, Osijek
4. Žager, K., Žager, L. (2007.: Osnove računovodstva, HZRFD, Zagreb

Additional literature

1. Javorović, M., Skenderović, Lj. (2016): Osnove računovodstva, Effectus, Zagreb
2. Meigs & Meigs, (1999.): Računovodstvo: Temelj poslovnog odlučivanja (prijevod), Mate, Zagreb
3. Skupina autora, (2009): Računovodstvo proizvodnje, RRiF, Zagreb
4. Anthony, N.R. (1998): Pregled osnova računovodstva, Jakubin i sin, Zagreb
5. Računovodstvo-knjigovodstvo, https://dokumen.tips/documents/racunovodstvo-knjigovodstvo-knjiga.html

PLANNING IN AGRICULTURE		
Coordinator	Jelena Kristić	
Collaborators	Ana Crnčan	
Study year and semester	Third year, 5th semester	
Number of credits and mode of delivery	ECTS credits	6
	Hours (L + E)	75 (45 L + 30 E)
COURSE DESCRIPTION		
Course aims	The aim of the course is to equip students with the skills to plan the costs of raw materials, auxiliary materials, labor, machinery, and to prepare budget and cost calculations when organizing crop and livestock production. Students will learn to create production and financial plans, enabling them to effectively manage agricultural production.	
Course enrolment requirements	No prerequisites	
Intended course learning outcomes		
Upon successfully completing the module, students will be able to: 1. Define the concept, objectives, and process of planning, as well as strategies and types of plans. 2. Identify the factors involved in crop and livestock production. 3. Standardize the performance of labor and machinery, and plan the consumption of raw materials and auxiliary materials. 4. Present the technological production chart for individual production lines. 5. Plan the costs of raw materials, auxiliary materials, labor, and machinery, and calculate the planned and actual cost calculations when organizing crop and livestock production. 6. Develop a business plan and calculate labor productivity, cost-effectiveness, and profitability of production.		
Assessment and evaluation of student work during classes		
The right to take the final exam is earned by collecting the minimum number of points. Points are earned through class attendance (at least 70%), active participation in class, and grades from partial exams. During the semester, students take two partial exams (in the 7th and 15th week of classes). The final exam is mandatory, and a positive grade on the final exam is a prerequisite for a positive final grade. The final exam is written.		
Obligatory literature		
1. Gulin, D., Tušek, B. Žager, L. (2004): Poslovno planiranje, kontrola i analiza, Hrvatska zajednica računovodstva i financijskih djelatnika, Zagreb. 2. Karić, M. (2002): Kalkulacije u poljoprivredi, Poljoprivredni fakultet u Osijeku, Osijek.		
Additional literature		
1. Kuvačić, N. (2003): Biznis - plan ili poduzetnički projekt, Beretin d.o.o. Split.		

PRACTICAL WORK I		
Coordinator	Andrijana Rebekić	
Collaborators	-	
Study year and semester	Third year, 6th semester	
Number of credits and mode of delivery	ECTS	6
	Hours (E)	75 (75 E)
COURSE DESCRIPTION		
Course aims	Familiarizing students with the practical application of methods in agricultural economics, economic organization, and production factors.	
Course enrolment requirements	No prerequisites	
Intended course learning outcomes		
Upon successfully completing the module, students will be able to: 1. Determine micro and macroeconomic factors of agricultural development. 2. Identify the impact of the market on the agricultural sector. 3. Evaluate the production success at the company level and the success at the product level. 4. Establish the effectiveness of changes in time series of specific phenomena. 5. Explain the relationship between agriculture and social changes in rural areas.		
Assessment and evaluation of student work during classes		
Students are expected to attend regularly and complete the internship. During the internship, they must keep notes of their observations in a work diary. Regular attendance in the practical part of the course and the completed work diary are prerequisites for successfully passing the exam.		
Obligatory literature		
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Additional literature		
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