

AGROFORESTRY			
Course coordinator	Assoc. Prof. Vladimir Ivezić		
Associates in the course			
Study programme	Master study programme, plant production		
Course status	elective		
Year and semester	Second year, first semester		
Credits and type of lecture	ECTS	6	
	Nr. hours (L+E+S)	Lectures - 60, Exercise - 5, Seminar - 10	
COURSE DESCRIPTION			
Learning objectives	Describe agroforestry systems and their significance in the diversification of agricultural production and environmental protection. Give examples of the functions of woody species on agricultural land (windbreaks, soil purification, nutrient uptake, carbon sequestration, biodiversity and bioenergy production). Analyse the socioeconomic potential of agroforestry for rural development.		
Prerequisites for course	None		
Learning outcomes of the course			
After successfully completing the module, the student will be able to:			
<ol style="list-style-type: none"> 1. Classify agroforestry systems and give examples of different systems and explain their significance for the diversification of agricultural production and environmental protection 2. Describe the methods of forest management and select the most suitable woody species for agroforestry systems 3. To connect knowledge from agriculture with newly acquired knowledge from forestry. 4. Describe the role of agroforestry systems in mitigating the effect of greenhouse gases (carbon sequestration) 5. To see the importance of agroforestry systems on degraded soils 6. Analyse the socioeconomic potential of agroforestry for rural development. 7. Identify obstacles to the establishment of agroforestry systems 8. Create a seminar on the subject of agroforestry practice 			
Evaluation of students' work during class and at the final exam			
Examination type		Oral	Written
Evaluation		ECTS	Share in the grade (%)
Attending lectures		2,2	-
Attending exercises		0,2	-
Class activity, preparation for class, reflective review of class content		0,6	20%
Seminar		0,8	25%
Written exam		2,2	55%
Total		6	100%
In forming the final grade for students, continuous class attendance and activity, preparation for class, reflective review of course contents, seminar work and written exam are considered. The evaluation of			

the seminar paper includes the clarity, accuracy, and relevance of the written seminar information and the presentation's overall (technical and visual) quality.

Attending classes is mandatory in accordance with the regulations of J.J. Strossmayer University in Osijek. If the student is not present on more than 30% of the teaching hours, he loses the right to take the exam.

Compulsory literature

1. A. Rigueiro-Rodríguez, J. McAdam, and M.R. Mosquera-Losada (Eds.) (2009): Agroforestry in Europe. Springer Science + Business Media B.V. (3-89 p.; 321-349 p.)
2. A. Quinkenstein, J. Wöllecke, C. Böhm, H. Grünewald, D. Freese, B. U. Schneider, R. F. Hüttl (2009): Ecological benefits of the alley cropping agroforestry system in sensitive regions of Europe. *Env. Sci. & Policy*, 12; 1112-11214. New direction for agriculture, forestry and fisheries, SARD-Sustainable agriculture and rural development, Fao, p65,rome, 1995 (web adresa)
3. Tomašević, A. (1996): Vjetrozaštita Sinjskog polja. *Šumarski list* br. 1—2, CXX (1996), 19—34
4. Dimitriou, I, Rutz, D. (2015): Kulture kratkih ophodnji – priručnik o održivom uzgoju. WIP Renewable Energies, Munchen, Njemačka (HRV. Izdanje Energetski institut Hrvoje Požar)

Additional literature

1. P.K.Ramachandran Nair. (1993): An Introduction to Agroforestry. Kluwer Academic Publishers (in cooperation with ICRAF). 496 p.
2. H. E. Garrett, W. J. Rietveld, and R.F. Fisher (2000): North American Agroforestry: An Integrated Science and Practice. American Society of Agronomy Inc.
3. M.R. Mosquera-Losada, D. Freese, and A. Rigueiro-Rodríguez (2011): Carbon Sequestration in European Agroforestry Systems. In: B. Mohan Kumar and P.K. Ramachandran Nair (eds): Carbon Sequestration Potential of Agroforestry Systems. Springer Science + Business Media B.V
4. L.E. Buck, J.P. Lassoie and E.C.M. Fernandes (1999): Agroforestry in Sustainable Agricultural Systems. CRC Press LLC (poglavlja: 1, 3, 5, 9, 13, 17)
5. S. Jose and A. M. Gordon (2008): Toward Agroforestry Design – An Ecological Approach. Springer Science + Business Media B.V. (poglavlja: 10, 16, 18)
6. Čavlović, J. (2013): Osnove uređivanja šuma. Izdavač: Šumarski fakultet Sveučilišta u Zagrebu, 2013, ISBN 978-953-292-028-4
7. H. Grünewald, C. Böhm, A. Quinkenstein, P. Grundmann, J. Eberts and G. von Wühlisch (2009): *Robinia pseudoacacia* L.: A Lesser Known Tree Species for Biomass Production. *Bioenerg. Res.* 2:123–133
8. H. Grünewald, B. K.V. Brandt, B. U. Schneider, O. Bensa, G. Kendzia and R. F. Hüttl (2007): Agroforestry systems for the production of woody biomass for energy transformation purposes. *Ecological Engineering* 29: 319–328