

Title	CONTROL OF SMALL MAMMALS IN AGRICULTURE						
Code	ZDIP40						
Study Program	Postgraduate Interdisciplinary University Programme Environment protection and Nature Conservation						
Semester	III semester						
ECTS	5						
Status	elective						
Lecturer	full professor Vlatka Rozman, PhD						
Co-Lecturers	-						
Requirements for Enrolment	-						
Objectives	To acquire knowledge of the importance of small mammals in the agricultural and forest areas as well as in urban areas, and of ways to control the population size, the ways of their control and environmental impact.						
Learning Outcomes	<ol style="list-style-type: none"> 1. Identify the types of small mammals in agriculture, forestry and urban environment 2. Distinguish the biology, ecology and ways of distribution of populations of small mammals in the country and the world 3. Explain the importance of populations of small mammals to humans and the environment 4. Distinguish between direct and indirect damage caused by rodents 5. Suggest a way of controlling the number of population 6. Choose measurements to suppression harmful populations 						
Connection between Learning Outcomes, Curricular and Student Activities	Student Activities	ECTS	Learning Outcomes	Curricular Activities	Methods of Assessment	Credits*	
						min	max
	attending lectures	2,5	1-6	Lecture	Evidence	5	10
	Continuous lectures attendance (activity at lectures, preparing for lessons, reflective review of the courses)	0,1	1-6	Lecture	Evidence, Evaluation	5	10
	Continuous observation and checking the knowledge (3 partial exams)	1,1	1-6	Knowledge check	The written part of exam	20	40
	seminar paper	0,1	1-6	Knowledge check	Evaluation of the seminar	10	20
	Final exam	1,2	1-6	Knowledge check	The oral part of the exam	10	20
Total	5					50	100
Consultations	Once a week 2h, and further, if necessary, in consultation with students.						
Learning Activities	Lectures		Seminars		Practice		
Hours	10		5		0		
Contents / Teaching Units	<ul style="list-style-type: none"> - Introduction to the module - The types of small mammals in the agricultural and forest areas and in urban areas - Order Rodentia, 						

	<ul style="list-style-type: none"> - Families Muscardinidae, Muridae - Order Insectivora, family talpidae, Soricidae - Biology, ecology, distribution in the world and the meaning for people, animals and the environment. - Direct and indirect damage from rodents. - Measures suppression: preventive, curative, integrated.
Obligatory Literature	<ol style="list-style-type: none"> 1. Capak, K., Bakić, J., Korunić, Z., Rozman, V., Krajcar, D., Pahor, Đ., Jurčević Podobnik V., Lovrić, Z., Vodopija R. (2013): Zbornik predavanja „Cjelovito (integrirano) suzbijanje štetnih glodavaca i mjere zaštite od ptica“. Korunić, d.o.o. Zagreb: 1-122. ISBN 978-953-7247-22-5 2. Capak, K., Bakić, J., Benić, N., Krajcar, D., Margaletić, J., Vučemilo, M., Hamel, D. (2002): Zbornik predavanja „Glodavci i ptice“. Korunić, d.o.o. Zagreb:1- 90. 3. Kalinović, I., Zimmer, R., Ilić, V., Banaj, Dj., Pančić, S., Lovas,O. (1995): Značenje suzbijanja glodavaca na poljoprivrednim i šumskim površinama antikoagulantima prve i druge generacije. Praxis veterinaria, 43(3):185-191. 4. Kalinović, I., Ivezic, M., Rozman, V., Žagi, H. (1998): Rodents control in the Republic of Croatia. Proceedings of the 7th International Working Conference on Stored-Product Protection, Beijing, P.R. China, 14-19.October 1998. Sichuan Publishing House of Science & Technology Oct.199,Chengdu,Sichuan Province,P.R. China:Vol.2, 1383-1388. 5. Kalinović, I., Rozman, V., (2001): Suzbijanje glodavaca u plastenicima povrća privatnih proizvođača Baranje. Zbornik radova 4. Znanstveno stručnog skupa iz DDD-a s međunarodnim sudjelovanjem «zdravo očuvati zdravim u novom tisućljeću», Bizovačke Toplice, 10.12. svibnja 2001.:247.252. 6. Margaletić, J.(2004): Dinamika sitnih glodavaca u šumskim ekosustavima Hrvatske u razdoblju od 1999. do 2003. godine. Zbornik radova Seminara DDD i ZUPP, Rovinj,2004:181-194. 7. Sauer, D.B.(1992): Storage of Cereal Grains and Their Products, Chapter 11: Kenton, L.H., Baur, F.J.: Rodents: 393-434. 8. Margaletić, J.(2015): Primjena repelenata u zaštiti šuma od sitnih glodavaca. Zbornik radova Seminara DDD i ZUPP, Mošćenička Draga, 2015:231-240.
Recommended literature	<ol style="list-style-type: none"> 1. Korunić, Z.(1990): Štetnici uskladištenih poljoprivrednih proizvoda, biologija, ekologija i suzbijanje. Gospodarski list, Zagreb: 3-220. 2. Szonnyegi, S., Kalmar,K. (1999): Szemestermeny tarlok karositoi es az ellenuk valo vedekezes. Agroniform kiado, Budapest:1-199. 3. Štrbac, P. (2002): Štetočine uskladištenih proizvoda i njihova kontrola. Poljoprivredni fakultet, Novi Sad:1-494. 4. DDD i ZUPP Djelatnost (2015): Insekticidi, fumiganti i rodenticidi u prometu u Republici Hrvatskoj.Korunić, d.o.o., Zagreb:1-247. ISSN 1846-209X
Requirements for Aquiring Signature	The attending lectures is mandatory in accordance with the Regulations on studies and studying at the University of JJ In Osijek. If a student misses more than 30% of classes lose the right signatures.
Type of Exam	Students are expected continuous attendance and active participation in the tasks during the lectures and seminars. During the semester will be held one seminar and three partial, written exams. The final exam is oral. Students successfully fulfilling the obligations of the semester may be exempt from writing the final exam. Students are recommended keeping notes during lectures, and preparation for exams from the obligatory literature and additional reading. During the lectures will be used PowerPoint presentations to help explain the contents of which are discussed at lectures. Presentations will be in digital form will be available to students.
Lectures Language	Croatian, English
Quality Monitoring	Student questionnaire after completing the module.