Course title	**Urban entomology**
Code	
Study	Postgraduate Interdisciplinary University Study Programme *Environment Protection and Nature Conservation*
Semester	III
ECTS	5
Course state	Elective
Professors	prof.dr.sc. Enrih Merdić, full professor
Colaborators	Doc. dr. sc. Mirta Sudarić Bogojević, assistant professor
Entrance conditions	none
Aim	To introduce students to insects who live and multiply in urban environments, recognize them. Point them to the harmful effects of insect on man and his resources. To show the control of individual urban insect groups, and the action of pesticides on the environment and man
Learning outcomes	After successfully completing the course and the course, the students will be able to 1. Explain how urban areas function as specific ecosystems. 2. Define important insect species in urban areas. 3. Identify problems related to mosquito control. 4. Understand the impact of pesticides on humans

Connections between students activity, learning outcomes and evaluation

Students activity	**ECTS**	**Learning outcomes**	**Course activity**	**Evaluation methods**	**Points***	
					min	**max**
Active participation	1	1-9	Lectures	Minutes	5	15
Indenpendent preparation of seminar	1	1-9	Seminars	Predefined criteria	15	25
Preparation for the exam	3	1-4	Problems solving	Exam	35	60
Total	**5**				**55**	**100**

Consultations	According to the students need		
Teaching form	**Lectures**	**Seminars**	**Exercises**
No. of hours	15	5	5

Content	Historical development of urban environments, the reasons for entering insects in urban areas, places preferred by urban insects. Insect groups living in the city. Damages from urban insects. It will be worked on: Mosquitoes (Culicidae), with different biological aspects: life cycle, choice of breeding sites, species present in Croatia and the world, anthropophilic species, vector role, biological control methods. Ants (Formicidae): life cycle, species in urban environments, special adaptations to life in the city, biological control methods. Beetles (Blattidae) life cycle, number of species, resistance, control. Muhe (Muscidae) life cycle, number, special flying ability, control. The morphological and anatomical features of the mentioned families will also be considered within the subject
Compulsory literature	Clements, A. N., 1996: The biology of mosquitoes. Development, nutrition and reproduction. Chapman & Hall. London, New York, Tokio. Ebeling, W., 1975: Urban entomology, University of California. Millerg, G. T., 1992: Living in the Environment, Wadsworth Publishing Company, Belmont, California. Robinson, W. H., 1998: Urban Entomology. Insects and mite in the human environmment. Chapman & Hall, London, New York.
Optional literature	Elzinga, R. J., 2000: Fundamentals of Entomology. Prentice Hall, Ney Jersey. Merdić, E. & Milas, J. 2003: Praktična iskustva kontrole komaraca "ledenim granulama" *Bacillus thuringiensis israelensis* na poplavnom području oko Osijeka 2002. godini. Zbornik radova seminara DDD i ZUPP Becker, N. 1997: Microbial control of mosquitoes – managemant of the upper Rhine mosquito population as a model programme. *Parasitology today*. 13 (12):485-487.
Completion condition	Active participation in the course
Exam form	Seminar and oral
Possible teaching languages	Croatian or English
Form of quality monitoring	Student questionaire