

1. Title of subject/module/unit		Social Insect Ecology				
2. Unit code		3. Number of ECTS credits			5	
4. Contact hours		Total 40	L 20	E 20	S	Other forms
5. Cycle	Master's	6. Year	1st		7. Semester	1st
8. Study programme		International Master of Science in Horticulture		9. Branch of study		
10. Pillar of the programme		Facultative		11. Language	English	
12. Special features						
13. Objectives and subject-specific competences		Knowledge on ecology and life history of bees, ants and wasps, their behaviour, nest structure, communication and importance in agriculture.				
14. Description of content		Evolution of social behaviour, comparison between social and solitary insects, division of labour in social insects, communication between colony members, importance of social insects for pollination of crops and pest control, biology of honey bees, bumble bees, ants and wasps.				
15. Basic bibliography		Wilson, E. (1971) The insect societies. Belknap, Cambridge, MA. Hölldobler, B., Wilson, E. O. (2009). The superorganism: the beauty, elegance, and strangeness of insect societies. WW Norton & Company.				
16. Envisaged learning outcomes		<i>16.1 Knowledge and understanding</i>		The student defines social and solitary insects, describes biology of bees, ants and wasps, understands evolution of social insects, presents examples of social insects communication, describes beneficial role of social insects in agriculture.		
		<i>16.2 Application</i>		The student knows how to behave in order to avoid stinging by bees, analyse data in order to understand behaviour of bees, is able to plan pollination of crops.		
		<i>16.3 Reflection</i>		The student is capable of formulating unbiased opinions on the use of different species for pollination of crops.		
		<i>16.4 Transferable skills – not tied to just one subject</i>		Teamwork, ability to present and defend personal opinions.		
17. Methods of teaching and learning		Lectures, laboratory practicals.				
18. Conditions for inclusion or to undertake work required		Enrolment in the year of the course. Basic computer skills.				
19. Methods of assessment and the assessment scale		- Written exam (100%) - Attendance at laboratory practicals and preparation of laboratory Evaluation scale: Grades from 2.0 (worst) to 5.0 (best)				
20. Method of evaluation of course quality		Student questionnaire.				
21. Curriculum compiler		Dr. Adam Tofilski, University of Agriculture in Krakow				