Description of the education module/course (syllabus)

Course name:	**Insect behaviour – from mechanisms to practical issues**	**ECTS**	**1**
Translation of the course name into English:	-		
Study field:	General Horticulture		

Language of lectures: english		Study level: Master of science	
Study form: ☒ stationary ☐ extramural	Status of lectures: ☐ primary ☒ directional ☒ obligatory ☐ facultative	Semester number: 2	☒ winter semester ☐ spring semester
Academic year from which the description applies	**2021/2022**	Catalog number:	**OGR-O-2S-02Z-13_19 ang**

Course coordinator:	dr. hab. Katarzyna Michalska		
Lecturers:	dr. hab. Katarzyna Michalska		
Unit running the course:	Department of Applied Entomology		
Unit ordering the course:	Faculty of Horticulture		
Assumptions, objectives and description of the course:	To acquaint students with the basic mechanisms and functions of insect behaviour. As a part of the course, the newest investigations on communication, learning and cognition in insects as well as the applied aspects of insect behaviour are presented. The course topics include: molecular, neuronal and hormonal control of insect behaviour; communication- the role of visual, chemical and acoustic signals; mechanisms of mate–finding, host-plant finding/selection, mechanisms of prey-finding &defence; learning and cognition; insect sociality; the effect of environmental pollution on the behaviour of pollinating insects; behavioural manipulation methods for insect pests and vectors management; biomimetics and insect models in robotics.		
Didactic forms, number of hours:	lectures, 15 hours		
Teaching methods:	multimedia presentation including video movies and internet; discussion		
Formal requirements and prerequisites:	The basics of zoology, ecology and genetics - secondary school level		
Learning outcomes:	Knowledge: W1 – student is knowledgeable in ethology and behavioural ecology W2- student knows the basic mechanisms and functions of insect behaviour and their applied significance	Skills: U1 – student manages to write a report referring investigations on insect behaviour U2 - student is able to use the professional sources of information in the printed and electronic form	Competences: K1 – student is prepared for new solutions in plant protection K2- student is aware of the responsibility for the condition of the environment
The way of verification of learning outcomes :	W1, W2 , K1, K2 – written exam W1, W2 U1 U2 K1-K2 – written report on the newest investigations on insect behaviour W1,W2 – taking part in discussion		
Form of documentation of achieved learning outcomes:	(1) exam answer sheet with grading (2) report in a paper form, (3) time-sheet with the record of student engagement in discussion		
Elements and weights affecting the final grade:	written exam- 60%, report- 30%, student activity in discussion - 10%		
Place of classes:	Lecture room		

Basic and supplementary literature :

1. Matthews, R.W. Matthews, JR. Insect behaviour. 2010. Springer
2. Agarwal M.L. Perspectives in insect behaviour, 2010
3. Chapman R.F. The Insects: Structure and Function. 5th ed, 2013, Cambridge Univ. Press
4. K. Preston-Mafham, R. Preston-Mafham. The Encyclopedia of Land Invertebrate Behaviour. 1991. Blabdford
5. E. O. Wilson. The insect societies. 1971. Belknap Press of Harvard Univ.
6. M.A. Hoy. Insect molecular genetics. Elsevier, 2003
7. J.R. Krebs, N.B. Davies, S.A. West. An introduction to behavioral ecology . 4th ed., 2012, Wiley-Blackwell Publishing
8. J. Alcock. Animal behaviour: an evolutionary approach. 1993, Sinauer Associates

COMMENTS
consultation, exam (not included in teaching quota) - 2 hours.

Quantitative indicators characterizing the module / object: 15 h - lectures, 1 h - consultation, 6 h –writing a report and preparation to the exam

Estimated total number of student work hours (contact and own work) necessary to achieve the assumed learning outcomes - on this basis, complete the ECTS field:	**25 h**
The total number of ECTS points that a student receives in classes requiring direct participation of academic teachers or other lecturers:	**0,5 ECTS**

Table of compliance of the directional learning outcomes with the effects of the course:

Effect category	Learning outcomes for the course:	Reference to learning outcomes specific for study program on particular study field (direction)	The impact of course on the directional effect *)
Knowledge – W1	student is knowledgeable in ethology and behavioural ecology	K_W03	2
Knowledge –W2	student knows the basic mechanisms and functions of insect behaviour and their applied significance	K_W03, K_W04, KW_09	3,2,1
Skills – U1	student manages to write a report referring investigations on insect behaviour	K_U09, K_U12	3,1
Skills –U2	student is able to use the professional sources of information in the printed and electronic form	K_U07	3
Competences –K1	student is prepared for new solutions in plant protection	K_K01	2
Competences –K2	student is aware of the responsibility for the condition of the environment	K_K04	2

*)

3 – znaczący i szczegółowy,

2 – częściowy,

1 – podstawowy,