

**Course name:****SOCIAL INSECTS ECOLOGY**

ECTS	3
Course status	complementary
Course final assessment/evaluation of outcomes	exam
Prerequisites	General knowledge about entomology

**Main field of study: Biology****APPLIED BIOLOGY**

Profile of study	General-academic
The code of studies (education level)	SI / SM (bachelor / master)
Semester of studies	winter
Language of instruction	English

**Course offered by:**

Name of faculty offering the course	Faculty of Animal Science
Name of department offering the course	Department of Department of Zoology and Animal Welfare
Course coordinator	Adam Tofilski

**Learning outcomes of the course:**

Symbol of outcome	Description of learning outcome	Reference to	
		main field of study outcomes	discipline#
<b>KNOWLEDGE – student knows and/or understands:</b>			
SIE_W1	The student defines social and solitary insects.	BIOS1_W07	RZ, PB
SIE_W2	Describes biology of bees, ants and wasps.	BIOS1_W07, BIOS1_W09, BIOS2_W16	RZ, PB
SIE_W3	Presents examples of social insects communication.	BIOS1_W07, BIOS2_W14	RZ, PB
SIE_W4	Describes beneficial role of social insects in agriculture.	BIOS1_W14, BIOS2_W14	RZ, PB
<b>SKILLS – student is able to:</b>			
SIE_U1	The student knows how to behave in order to avoid stinging by bees.	BIOS2_U18	RZ, PB
SIE_U2	The student analyses data in order to understand behaviour of bees.	BIOS2_U10	RZ, PB
SIE_U3	The student is able to plan pollination of crops.	BIOS2_U10	RZ, PB
<b>SOCIAL COMPETENCE- student is ready to:</b>			
SIE_K1	The student is capable of formulating unbiased opinions on the use of different species for pollination of crops.	BIOS2_K06	RZ, PB

**Teaching contents:**

<b>Lectures</b>	<b>15</b>	<b>hours</b>
Topics of the lectures	Biology of social bees (2 hrs) Biology of social wasps (2 hrs) Biology of ants (2 hrs) Caste polyethism (2 hrs)	

	Age polyethism (2 hrs)
	Communication in social insects (3 hrs)
	Importance of social insects in agriculture (2 hrs)

Accomplished learning outcomes	<i>SIE_W1, SIE_W2, SIE_W3, SIE_W4, SIE_K1</i>
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Verification methods, rules and criteria of outcome assessment	<i>multiple-choice test (80 %)</i>
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<b>Classes</b>	<b>15</b>	<b>hours</b>
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Topics of the classes	Identification of bees (2 hrs)
	Identification of wasps (2 hrs)
	Identification of honey bee subspecies (2 hrs)
	Decoding of honey bee waggle dance (2 hrs)
	Basic beekeeping (7 hrs)

Accomplished learning outcomes	<i>SIE_U1, SIE_U2, SIE_U3, SIE_K1</i>
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Verification methods, rules and criteria of outcome assessment	<i>reports from classes (20 %)</i>
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<b>Seminars</b>	<b>0</b>	<b>hours</b>
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Topics of the seminars	
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Accomplished learning outcomes	<i>symbol of learning outcomes of the seminars</i>
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Verification methods, rules and criteria of outcome assessment	<i>together with participation in the final assesement (in %)</i>
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**References:**

Basic	<i>Wilson, E. (1971) The insect societies. Belknap, Cambridge, MA.</i>
Supplementary	<i>Hölldobler, B., Wilson, E. O. (2009). The superorganism: the beauty, elegance, and strangeness of insect societies. WW Norton &amp; Company.</i>

**Structure of learning outcomes:**

Discipline: RZ	1,5	ECTS**
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Discipline: PB	1,5	ECTS**
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**Structure of student activities:**

Contact hours	32	hours	1,3	ECTS**
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including: lectures	15	hours
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classes and seminars	15	hours
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consultations	1	hours
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participation in research	0	hours
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mandatory trainershops	0	hours
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participation in examinations	1	hours
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e-learning	0	hours	0	ECTS**
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student own work	42	hours	1,7	ECTS**
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\* where 10 hours of classes = 1 ECTC (in case of 15 h → 2 ECTS)

\*\* stated with an accuracy to 0.1 ECTS, where 1 ECTS = 25 - 30 hours of classes

# academic discipline code: RZ - animal science and fishery, PB - biological sciences, etc.