SZKOŁA GŁÓWNA GOSPODARSTWA WIEJSKIEGO

General Entomology

Educational subject description sheet

Basic information

Field of study
Course Offer for exchange students - second cycle studies, including uniform master studies (MA programmes)

Speciality
-

Organizational unit
Course Offer for exchange students

Study level
second cycle studies, including uniform master studies (MA programmes)

Study form
full-time studies

Education profile
General academic

Didactic cycle
2024/25

Subject code
PWMPWM2S_D.B100000.06335.24

Lecture languages
english

Mandatory
Elective subjects

Block
Basic subjects

Disciplines

Coordinator	Katarzyna Michalska
Teacher	Katarzyna Michalska

Period	**Examination**	**Number of ECTS points**
Winter semester	Pass with grade **Activities and hours** Lecture: 15 Laboratory exercises: 13 Field exercises: 2	3

Goals

Code	Goal
C1	to provide students with general, biological knowledge about this important constituent of our environment, which is also the basis for modern plant protection and environmental management

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge – Student knows and understands:			
W1	the standards of structure and dvelopment of insects to an advanced degree		Report, Test (written or computer based)
W2	basic systematics of insects		Report, Test (written or computer based)
W3	the role of insects in land ecosystems		Report, Test (written or computer based)
Skills – Student can:			
U1	dissect and recognize the internal organs of insects and developmental stages in different groups of insects		Report, Test (written or computer based)
U2	classify insects and identify their orders and selected families		Report
U3	write a report referring general entomology		Report, Test (written or computer based)
U4	use the professional sources of information in the printed and electronic form		Report, Test (written or computer based)
Social competences – Student is ready to:			
K1	to be responsible for the condition of the environment		Report, Test (written or computer based)
K2	introducing new solutions in plant protection		Report, Test (written or computer based)

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Insects as the pillars of land ecosystems (diversity, evolution, food chain, relationships with other organisms, impact on humans) (2) Systematics (3) External anatomy (integument, body parts, coloration, exaggerated traits) (4) Development (eggs, embryology, morphogenesis, metamorphosis) (5) Internal anatomy and physiology (systems: nervous, endocrine, digestive, excretory, circulatory, reproductive) (6) Ecology of an individual (biotic and abiotic factors, specialization, strategies in life) (7) insects in human culture	W1, W2, W3, U3, U4, K1, K2	Lecture

No.	Course content	Subject's learning outcomes	Activities
2.	External anatomy of insects belonging to different orders: examination of a head, thorax, abdomen and their appendages. comparison of different types of legs and wings; their functions; dissection of mouthparts: chewing, sponging, piercing-sucking and chewing-lapping types. Internal anatomy: dissection of an insect male and female: examination of reproductive organs, respiratory, circulatory, digestive, excretory and nervous system. Morphology of insect hemolymph, observations of incomplete and complete metamorphosis in insects, identifications of types of larvae and pupae. Classifications of ametabolous, hemimetabolous and holometabolous insects: identification of insect orders, families and genera.	W1, W2, U1, U2, U3, U4, K1, K2	Laboratory exercises, Field exercises

Course advanced

Activities	Methods of conducting classes
Lecture	Lecture, Case study, Discussion, Presentation
Laboratory exercises	Teaching technique in the form of play, exact, task, Teamwork, Individual work, Laboratory (experiment), learning by experiment
Field exercises	Teamwork, Observation, Field observations

Activities	Examination method	Percentage
Lecture	Test (written or computer based)	60%
Laboratory exercises	Report	30%
Field exercises	Report	10%

Activities	Credit conditions
Lecture	written exam – documented in a paper form with grading
Laboratory exercises	written report on the tasks performed during laboratory classes
Field exercises	written report on the tasks performed during field classes

Literature

Obligatory

1. Chapman R. F. The Insects: Structure and Function 4rd ed, Cambridge Univ. Press, pp 766 Carde Ring, Resh Vincent H (eds). Encyclopedia of Insects. Academic Press, pp. 1266 Gullan, P.J., Cranston P.S. The Insects: An Outline of Entomology, 5th ed, Wiley-Blackwell, pp.624

Optional

1. Eisner T. For Love of Insects. Belknap Press, pp.464 Triplehorn, Ch.A., Jonston NF. Study of insects. Cengage Learning, Inc., pp. 888 McGavin GC. Essential Entomology.Oxford University Press.pp 336 Speight M., Hunter. Ecology of Insects: Concepts and Applications.. pp.640 D.M. JOHN WILEY AND SONS LTD, pp.640 Gillott C.Entomology. Springer Nature, 3rd edition.

Calculation of ECTS points

Activity form	Activity hours*
Lecture	15
Laboratory exercises	13
Field exercises	2
Preparation of the report	20
Preparation for the exam	30
Conducting literature research	10
Student workload	**Hours** 90
Number of ECTS points	**ECTS** 3

* hour means 45 minutes