



SZKOŁA GŁÓWNA
GOSPODARSTWA
WIEJSKIEGO

The Basics of Bioenergetics

Educational subject description sheet

Basic information

Field of study Course Offer for exchange students - second cycle studies, including uniform master studies (MA programmes)		Didactic cycle 2024/25	
Speciality -		Subject code PWMPWM2S_D.B100000P.06304.24	
Organizational unit Course Offer for exchange students		Lecture languages english	
Study level second cycle studies, including uniform master studies (MA programmes)		Mandatory Elective subjects	
Study form full-time studies		Block Basic subjects	
Education profile General academic		Disciplines Animal husbandry and fishery	
Coordinator	Marcin Taciak		
Teacher	Marcin Taciak		
Period Winter semester	Examination Exam	Number of ECTS points 2	
	Activities and hours Lecture: 30		

Goals

Code	Goal
C1	The aim of this course is to introduce students to bioenergetics, the multidisciplinary study of how energy, result of food conversion, is transferred in organisms depending on its physiological state.

Entry requirements

A basic understanding of biochemistry, physiology and nutrition.

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge - Student knows and understands:			
W1	Knows the basics of classical thermodynamics and is able to apply them to the interpretation of energy effects related to life processes.		Test (written or computer based)
W2	Knows factors affecting energy demand associated with various physiological states		Test (written or computer based)
Skills - Student can:			
U1	Understands the basic regularities governing the transformation of chemical energy into other forms of energy necessary for the proper functioning of a living organism		Test (written or computer based)
U2	Understands the physiological processes that cause a change in energy demand in ontogenesis		Test (written or computer based)
Social competences - Student is ready to:			
K1	Competence in the assessment of factors affecting the body's energy needs.		Test (written or computer based)

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	The program includes lectures during which students learn about the theory related to energy transformations in the body, in particular: components of the energy balance, supply of energy to the body, heat exchange between the body and the environment, energetics of physical activity, body's energy reserves, energy demand in various physiological states: pregnancy, lactation, growth and aging.	W1, W2, U1, U2, K1	Lecture

Course advanced

Activities	Methods of conducting classes
Lecture	Lecture

Activities	Examination method	Percentage
Lecture	Test (written or computer based)	100%

Activities	Credit conditions
Lecture	An exam in the form of a test, verifying core knowledge and understanding of the subject under time-constraint conditions. Verification of attendance at lectures using the attendance list, the possibility of absence three times.

Literature

Obligatory

1. Teaching materials provided by the lecturer

Calculation of ECTS points

Activity form	Activity hours*
Lecture	30
Preparation for the exam	30
Student workload	Hours 60
Number of ECTS points	ECTS 2

* hour means 45 minutes