



COURSE UNIT (MODULE) DESCRIPTION

Course unit (module) title	Code
Sensory Ecology	

Lecturer(s)	Department(s) where the course unit (module) is delivered
Coordinator: Senior researcher Dr. Mindaugas Mitkus Other(s):	Institute of Biosciences, Life Sciences Center, Saulėtekio al. 7, LT-10223, Vilnius

Study cycle	Type of the course unit (module)
First, second, third	Elective

Mode of delivery	Period when the course unit (module) is delivered	Language(s) of instruction
Face-to-face	Semester	English

Requirements for students	
Prerequisites: General zoology or Neurobiology	Additional requirements (if any): None

Course (module) volume in credits	Total student's workload	Contact hours	Self-study hours
5	132	32	100

Purpose of the course unit (module): programme competences to be developed
<p>The course unit aims to develop:</p> <p><i>Specific competences:</i> ability to understand working principles of various sensory systems and to interpret behaviour of diverse animal groups in a context of sensory system limitations.</p> <p><i>Generic competences:</i> analytical and critical thinking in a search of reliable information; skills in evaluating, summarising and presenting information in a written and oral form.</p>

Learning outcomes of the course unit (module)	Teaching and learning methods	Assessment methods
Upon successful completion of the course students should:		
<ul style="list-style-type: none"> • posses knowledge on working principals of sensory systems; • posses knowledge on diversity of sensory systems in animal kingdom; • understand trade-offs set by physics on sensory systems; • understand and relate limitations of animal behaviour and successful performance in urbanised world to limits of sensory systems. 	Lectures.	Written examination.
<ul style="list-style-type: none"> • improve the ability to gather, evaluate, and summarize information in a written form; • improve the ability to select most important information and present it orally in a limited amount of time; • improve the ability to lead scientific discussion. 	Scientific literature analysis, preparation and performance of final written paper and oral presentation.	Evaluation of written paper, delivery of presentation and scientific discussions.

Content: breakdown of the topics	Contact hours							Self-study work: time and assignments	
	Lectures	Tutorials	Seminars	Exercises	Laboratory work	Internship/work placement	Contact hours	Self-study hours	Assignments
1. Introduction to principals of sensory systems	6						6	16	Self study of textbooks to fill in knowledge gaps for students with different backgrounds on the subject.
2. Touch and equilibrium	2						2	4	Self study of textbooks and scientific literature.
3. Hearing and echolocation	2						2	4	Self study of textbooks and scientific literature.
4. Taste and olfaction	2						2	4	Self study of textbooks and scientific literature.
5. Vision	8						8	16	Self study of textbooks and scientific literature.
6. Thermo, electro and magneto reception	2						2	4	Self study of textbooks and scientific literature.
7. Orientation and navigation	2						2	4	Self study of textbooks and scientific literature.
8. Senses and sensory ecology	2						2	4	Self study of textbooks and scientific literature.
9. Sensory ecology in an urban world	2						2	4	Self study of textbooks and scientific literature.
10. Written paper and oral presentation								24	Writing written paper and preparing oral presentation.
11. Oral presentation			4				4		Performing oral presentation.
12. Preparation for written exam								16	Self study.
Total							32	100	

Assessment strategy	Weight %	Deadline	Assessment criteria
Written paper	25	Before the start of examination period.	Students have to write a final paper in a form of a “review paper” on a given or freely selected topic. The paper will be distributed among all students before the day of oral presentations and one student will be assigned to scrutinise it and act as an opponent during the oral presentation. The course coordinator does final evaluation of the written report.
Oral presentation	25	Before the start of examination period.	Students have to give an oral presentation to the class and present the topic they have analysed and summarised in the written paper. The assigned opponent leads the discussion after the presentation. Other students are welcome to participate in discussion too. The course coordinator evaluates the quality of presentation, responses to the opponent, and student’s performance as an opponent to the presentation of another student.
Written exam	50	January	Written exam consists of five open questions.

Author	Year of publication	Title	Issue of a periodical or volume of a publication	Publishing place and house or web link

Compulsory reading				
Optional reading				
Martin Stevens	2013	Sensory Ecology, Behaviour and Evolution		Oxford University Press
David B. Dusenbery	1992	Sensory Ecology: How Organisms Acquire and Respond to Information		W. H. Freeman
Friedrich G. Barth and Axel Schmid	2001	Ecology of Sensing		Springer-Verlag Berlin Heidelberg New York
Jack W. Bradbury and Sandra L. Vehrencamp	2011	Principles of Animal Communication, 2 nd edition		Sinauer
Thomas W. Cronin, Sonke Johnsen, N. Justin Marshall, and Eric J. Warrant	2014	Visual Ecology		Princeton University Press